THE

Medical and Physical Journal.

VOL. VI.] DECEMBER, 1801. [NO. XXXIV.

To Dr. BATTY.

DEAR SIR,

I Beg the favor of a place in your Journal, to answer, and endeavour to rectify, some misapprehensions contained in the letter of Mr. Wilkinson upon Fractures. The pains which that gentleman has taken to gratify the public, respecting my queries, and the handsome manner he adopts, deserve a respectful notice. Without any desire to occupy your Journal in trifling controversy, I trust Mr. Wilkinson and your readers may feel satisfied with the following explanations.

First, My observations were quite general, and the cases related, only intended as points from whence the principal queries should issue.

Secondly, The leading question, requiring to be answered, was, On what local circumstances, or state of constitution, does the deficiency of hardening matter (phosphat of lime) depend, in cases of imperfect union in fractures generally?

Mr. Wilkinson seems to have returned those incidents upon me, which were related among the prominent features of the three cases, and has pressed them forward as sufficient causes of the phenomena; this is only carrying the argument farther than I thought necessary.

The sailor's case was that which he alludes to, and admits of all the conjectures applied to it; although neither symptoms of scurvy, nor mollities ossium in the other bones, were present; and I believe that Mr. I. Hunter had agreed with Mr. Lynn about the probable success of his operation.

When I stated that no decided inference can be drawn from these cases, as to the certain causes of such misfortunes, I did not mean to comprehend those in which the inferences were already so far drawn by myself. I intended to solicit further information from the relation of more cases, so that surgeons might be able to judge, a priori, of the chances which might favour the defective union of broken bones.

The carpenter's case was only described to convey the general effect of its character; his fore-arm rested in a sling at right angles with the upper-arm, and the bone of the fractured brachea was kept strait by splints and bandages. Whilst the

broken part of the arm continued ſtraight and free from pain, I judged it in a favourable condition for union; nor did I at all ſuſpect that the tone of the muſcles had ſo far ceaſed as to admit of that ſeparation by the weight of the lower arm, which would prevent the union. I related thoſe facts to caution others againſt thoſe hopes, and that ideal ſecurity which diſappointed me in this inſtance, and which I believe would have taken the ſame courſe in every other practitioner's hands. The reader will perceive, that in all the leading points Mr. Wilkinſon and I do not differ, although on the ſubject of depletion we may vary in the general acceptation.

That inflammation is one of the conſequences of fractures to be managed with nice attention, every one muſt agree. To regulate the degree and courſe of this natural proceſs, by means of medicine, diet, &c. every one muſt alſo aſſent, but the young practitioner will generally find more occaſion to fear the exceſſes than the deficiences of inflammation.

Old habits may in ſome inſtances be connived at, but a man ſhould conſult the records before he grants licences of this kind. Theſe are, however, digreſſions from the ſubject of imperfect union in fractures. The ſoldier was adviſed to undergo an operation for the removal of the ſplinter, but it was poſtponed. Should the enquiries which I have put forth, and the remarks of your worthy correſpondent, lead ſurgeons to avert, in any ſolitary inſtance, the misfortune of a diſunited fracture, by looking to the cauſes already aſſigned, or by fixing on more juſt and more philoſophical cauſes, the objects of my enquiry will be anſwered. The ſame motives and the ſame ſatisfaction cannot fail to prove the reward of Mr. Wilkinſon's labours.

I am, Dear Sir, &c.

Soho Square,
November 5, 1801.

A. CARLISLE.

Observations on the Effects of Opium applied externally. By M. Ward, *Surgeon to the Mancheſter Infirmary.*

" In the introduction of new modes of treatment, it is incumbent on the medical practitioner, to be ſeduloufly cautious, not only that he founds his trials on juſt analogies, but that he conducts them with impartiality, and records, with faithfulneſs, their good or ill ſucceſs."

Medical and Physical Journal, for July, 1799, *p.* 445.

In the latter part of my firſt paper on the effects of Opium applied externally, I took the liberty of ſuggeſting ſuch inference

ences as appeared to be deducible from the experience I had then had of their effects; namely, 1. That opium, when diligently applied externally ſo as to be abſorbed by the lymphatics, has powerful effects in allaying irritation, removing ſpaſm, and procuring ſleep. 2. That it is capable of producing theſe happy effects, where the exhibition of it internally had not the ſame ſalutary operation. 3. That this mode of introducing it into the ſyſtem may be reſorted to with advantage, when it cannot be given internally, or when it will not ſtay upon the ſtomach.*

Conſidering the above as incontrovertible facts, I could not avoid indulging a hope, that ſome benefit might probably ariſe from this mode of introducing opium into the ſyſtem in Hydrophobia and Tetanus; and the more I reflected on the ſubject, the ſtronger was my conviction that the miſery and danger attendant on theſe fatal maladies could not be increaſed by this practice; which is more, I fear, than can be ſaid of the preſent mode of treatment, in Hydrophobia eſpecially. It is true, I was unable to adduce poſitive evidence in ſupport of my opinion; but the following conſiderations ſeemed ſufficient to ſhew there was nothing improbable in the idea I entertained, and that it was not ſo wholly deſtitute of foundation in rational theory as might at firſt ſight appear. With this view, I mentioned, 1. The ſtrong indications in favor of employing opium in theſe diſeaſes; 2. The frequent inability of ſwallowing either food or medicine; 3. The violent (and ſometimes fatal) ſpaſms which are excited by almoſt every effort of that kind; † 4. ‡ The peculiar advantage ſhould opium prove an antidote to the canine virus of introducing it by the ſame ſyſtem of veſſels which convey the virus into the circulation; 5. The inefficacy of every plan of treatment hitherto tried.

After endeavouring to obviate ſuch objections as might be ſuppoſed to ariſe, from its appearing probable that the modus operandi is the ſame, whether opium be adminiſtered internally, or applied externally, I ventured to propoſe a plan of treatment which ſeemed leſs objectionable than thoſe in common uſe, and more conformable to ſome of the leading circumſtances of the diſeaſes.

That the taſk I undertook to perform was very imperfectly executed is ſufficiently evident; it is therefore not ſurpriſing, that my endeavours to demonſtrate the abſurdity, and even

---

* Medical and Phyſical Journal for July 1799, p. 447.

† A powerful motive for diſcontinuing the attempts to cure by internal means.

‡ This important obſervation was ſuggeſted to me by Dr. Percival.

 cruelty,

cruelty, of perſiſting in that hackneyed routine of practice in hydrophobia, which experience has repeatedly ſhewn to be only calculated to harraſs and diſtreſs the patient, and to diſappoint and diſgrace the medical practitioner, have not been attended with all the ſucceſs I could have wiſhed.

I conceive however, that much has been done in the interval which has elapſed, towards preparing the way for trying the effects of opiate frictions in hydrophobia, by the unequivocal and ſatisfactory demonſtrations which have been given of the anodyne and antiſpaſmodic properties of opium when applied externally, in the courſe of the lymphatics, by means of long continued friction. Various caſes have been recorded where it was thus introduced, and was found to exert its ſalutary virtues, ſo as to produce the moſt beneficial conſequences, (and without occaſioning thoſe inconveniences which often ariſe from its internal uſe, eſpecially in large doſes,) after the ſame medicine, both alone, and joined with other antiſpaſmodics, tonics, &c. had been exhibited internally with little or no benefit, or had been rejected altogether;* and though the modus operandi of opium applied externally has not been completely aſcertained, we ſhall hardly be inclined to reject the important facts we are now acquainted with, merely on that account.

Hitherto my attempts to aſcertain the primary operation of opium applied externally, on the pulſe, have not been ſucceſsful. Patients afflicted with ſpaſmodic or convulſive diſeaſes being uſually timid and apprehenſive, are not favourable ſubjects for the purpoſe; but I have reaſon to believe opium acts more directly and ſimply as a ſedative, when applied externally, than when given internally; and I think it is principally, if not entirely, owing to this difference in the modus operandi, that the ſuperior advantages of applying it externally, in certain caſes, are to be attributed.

Several paſſages occur in the places juſt referred to, which, though not deciſive, ſtrongly corroborate this idea. In the caſe of Mr. G. P. (Medical Journal for July 1799, p. 441) calmneſs was the firſt effect of the opiate frictions, which was ſucceeded by ſleep, a return of appetite; and the firſt time his pulſe was examined, it was found reduced from 100 to 80; and in that of Mrs. ———, (p. 443,) "I found her in a ſtate of high delirium without fever. Having remarked, that under ſimilar circumſtances, the internal exhibition of laudanum aggravated

---

* Medical and Phyſical Journal for July, 1799, p. 441—9. Ditto for Auguſt, 1799, p. 6—8. Ditto for September, 1799, p. 103 and 107. Ditto for February, 1800, p. 102. Ditto for July, 1801, p. 17. Ditto for November, 1801, p. 387, 432, and 433.

vated the affection of her head, probably by producing inebriation, I regarded this as a peculiarly favourable opportunity of trying the use of opium externally. I therefore directed, &c. In a few hours she was observed to become considerably calmer. The like inunction was repeated at night." The day following, "I found her perfectly composed and rational. She had enjoyed much refreshing sleep. Her pulse was regular, her heat natural, and a gentle perspiration had taken place soon after the first inunction."

Another case is related, (p. 444) where its sedative operation appears still more evidently; and in that of John Jackson, (Medical Journal for August 1799, p. 7,) its sedative power is equally apparent. "June 12. He found means in the night to extricate himself from the strait waistcoat, and has been so noisy the two last nights, as to disturb the patients in the neighbouring wards: He never ceases talking; his eyes are blood-shot; a constant tremulous motion prevails in every part of his frame; tongue furred; pulse 120. June 13. He slept well the whole of the last night; the tremor is gone, and he is easy, composed, and rational; pulse reduced from 120 to 88. The strait waistcoat was taken off. He has no complaint, except a slight mazines in his head. Two portions of liniment, each containing half a drachm of opium, were applied."

Mr. Henry says, (Medical Journal for Sept. 1799, p. 104, "She now, with a degree of obstinacy which I seldom witnessed, protested against taking any medicine, or even any appropriate food. She was sinking fast; her pulse very rapid and feeble, and she had a tendency to delirium. Wine, which in this state seemed highly requisite, she positively rejected; and I despaired of being able to succeed by internal means; I therefore resolved to try the external application of opium. The following ointment was directed, &c. This application seemed to have some sedative effect, and was therefore repeated in the evening. The good effects were each time more evident, sleep almost constantly followed the application of the ointment, though no more laudanum was given internally; her pulse, and the intensity of heat, were gradually reduced, the diarrhœa was stopped, &c."

In the same Number, (p. 107.) a striking proof is recorded of the good effects of opium applied externally in gangrene. It was not prescribed till after the failure of "opium internally both in the solid and liquid form, with as much bark and wine as the patient's stomach would bear, which she took a week without much abatement of the pain; the ulcer still spreading; her stomach rejecting every thing she took, &c. I directed, &c. The next morning she was easier, and the ulcer did not appear

appear to have ſpread. The frictions were continued five days longer, with an ounce of the tincture of opium each day; during which the pain left her, and the ulcer looked better every day, &c." (Mr. Barlow had before ſaid, the ulcer had a gangrenous appearance; the pain was exceſſive, and, as ſhe expreſſed herſelf, ſhot from her thumb to her heart.) It is worthy of remark, that the ulceration was ſpreading when the firſt portion of opium was applied, and that its progreſs was immediately arreſted: And this effect of opium is alſo clearly exemplified, in a very intereſting caſe, publiſhed in December 1799, by Mr. Docker, Surgeon to the Forces at Deal. As it eſtabliſhes this point, I ſhall beg leave to tranſcribe it.

" John Baylis, of the third regiment of Guards, was received into the military hoſpital at this place, from Holland, as a venereal patient.

" Upon examination, I found a conſiderable ſphacelation in the groin, from a bubo which had been opened ſome time. It was then rapidly increaſing; and from the general ſtate of his health, I had every reaſon to fear a fatal termination. The part was ordered to be fomented, and the carrot poultice applied; he had cordials, with bark and opium preſcribed, and as much wine as he could take; but, notwithſtanding, the ſphacelation ſtill continued to advance. Oct. 12. This morning I found him extremely ill; the attendants thought he would have died in the night. His ſtomach rejected every thing he took; his pulſe could ſcarcely be counted; a diarrhœa had come on, and his groin preſented a moſt ſhocking appearance. I concluded a few hours would have terminated his exiſtence. It now occurred to me, that opium, introduced by friction, would probably be attended with advantage, and I determined to try it as the laſt reſource. I accordingly directed the following to be immediately rubbed into the thighs and legs. Tinct. opii ʒij. Camph. ℥ij. Ol. oliv. ℥ij. Vitel ovi q. s. M.

" I viſited him a ſhort time afterwards, and found him, I thought, more compoſed and leſs languid, and he had taken ſome wine without ſickneſs. I directed the ſame quantity to be uſed again, and to be repeated in the courſe of the night, with the addition of one drachm of Tinct. Opii. October 13. This morning evidently better; had paſſed the night with ſome ſleep, and the inflammation about the edges of the ulcer conſiderably abated; the diarrhœa had alſo ſtopped. I directed three drachms of Tinct. Opii to be uſed three times in the courſe of the day. I ſaw him in the evening; he had taken a good deal of wine, and ſome ſoup, without any ſickneſs, and his pulſe was better; four drachms of Tinct. Opii were ordered to be uſed during the night. 14th. This morning he appeared in a pro-

greſſive

greffive ftate of recovery, though he had flept but little, and perfpired profufely; but he had a regular ftool, and the inflammation about the edges of the ulcer had ftopped, and its furface looked lefs gangrenous. I directed four drachms to be rubbed in every five hours. 15th. A good deal of compofed fleep during the night; the inflammation and fpreading entirely ftopped; the flough feparated from the found parts, and the ulcer now looked quite clean. He has taken a little wine during the laft twenty-four hours, and eat fome fifh with appetite; the friction continued. 16th. Slept the greateft part of the night, and awoke greatly refrefhed; friction continued. 17th. The carrot poultice omitted, and the ulcer treated with fimple dreffings; the friction continued, and he was directed to take fome infufion of bark. 19th. As the bark had created naufea, I ordered it to be omitted; and as his health and appetite now rapidly improve, I diminifhed the opium one third. 24th. He has now a very good appetite, and the ulcer heals rapidly; the opium diminifhed one half. 27th. The opiate friction entirely left off, and he is directed to take the decoction of bark, with elixir of vitriol. Nov. 13th. The ulcer is now almoft healed, and he is, in other refpects, in perfect health." Medical Journal for February 1800, p. 102—4.

Here, the fedative power of opium in diminifhing the irritability, fenfibility and mobility of the fyftem, and the difeafed actions confequent thereon, is exceedingly evident. On the 12th, the fphacelation ftill continued to advance, and the pulfe could fcarcely be counted. On the morning of the 13th, the inflammation about the edges of the ulcer was confiderably abated, the diarrhœa had alfo ftopped; and in the evening, his pulfe was better: (from which I conclude, that whatever other alteration was obfervable in the pulfe, its frequency was diminifhed). On the 14th, the inflammation about the edges of the ulcer had ftopped, and its furface looked lefs gangrenous. 15th. The inflammation and fpreading were entirely ftopped; the flough was feparated from the found parts, and the ulcer looked quite clean. — A remedy capable of frequently producing thefe effects, has long been a defideratum in medicine; and I have great hopes, that opium, applied externally, will, in fome degree, fupply this defect; attention being given to the employment of fuch other means as may tend to promote the object in view.

I fhould feel myfelf greatly indebted to Mr. Docker, if he would have the goodnefs to reply to the following queries, through the medium of the Medical and Phyfical Journal. Did each portion of liniment contain half an ounce of camphire and two

two ounces of oil? Have any syphilitic symptoms appeared since the bubo was healed? Has any mercury been employed?*

A case of great importance occurs in the Medical Journal for July 1801, p. 17. It is on the external use of opium in hiccup, and is addressed to the Editors of the Medical and Physical Journal.—After premising some particulars, which it will be unnecessary to introduce here, Mr. Gapper tells us, "On the 19th he was seized with a hiccup, the most violent, distressing, and incessant I ever witnessed; it continued, without even ceasing a single minute, for near *eighty hours*, before any relief was obtained. The pulse during this period was small, and fluctuated from 120 to 130 in a minute. I was not remiss in employing whatever remedies I judged most likely to be of service. Musk, asafœtida, amber, æther, volatiles, and opium were given, variously combined, at short intervals, and in considerable doses. A large blister was applied to the region of the stomach, and fomentations to the feet. At the end of the above mentioned period, not the least abatement could be perceived, the hiccup continuing as loud, as violent, and as incessant as ever. I began now to despair of my patient; when, as every thing else had failed, it occurred to me to employ opium by friction, in the manner I had seen it recommended in your useful Journal in cases of delirium attendant on Typhus fevers. I therefore ordered, &c. When I saw him the next morning, the liniment had been twice used, and I was much pleased to find with some effect. He was much more composed than on the preceding night; and though the hiccup was still as frequent as ever, yet it was less violent and loud; the pulse was also reduced to 112. Encouraged by these flattering circumstances, I ordered a continuance of the liniment. On the morning of the 22d he was in much the same state as on the preceding day; but in the evening, I was happy to find that intermissions, though short ones, had taken place. On the next day the intermissions were increased in frequency, and were extended to the length of half an hour or more, and the pulse was reduced to 90. The liniment was continued as before. From this time the hiccup became less frequent and violent, and the intermissions longer, until the 25th, when it wholly left him. The remainder of the case, as not being connected with the subject, it is unnecessary to relate; it is sufficient to say that my patient ultimately recovered." "During the

* I have lately employed camphire along with opium, externally, in a case of Typhus Fever, with a view to its sedative, antiseptic, and antispasmodic qualities. The effects were beneficial; but not more so than I have repeatedly seen take place from the employment of opium alone.

the uſe of the liniment he took no other medicine than the ſimple ſaline draught; and ſo far from the bowels becoming conſtipated under its uſe, it was not even neceſſary to give him any aperient medicine during its exhibition. It occaſioned a conſiderable degree of drowſineſs, but not in any degree to excite the leaſt alarm. The quantity of Tinct. Opii uſed was two ounces in the ſpace of little more than three days; * a quantity which could not have been exhibited in any other way without the moſt imminent hazard and danger. Such a wonderful effect as is here related, naturally leads the mind to ſpeculate on the modus operandi, and to diſcover why a certain quantity of opium may be conveyed into the ſyſtem through the abſorbents, not only without detriment, but with great and decided advantage, which, if admitted into the ſtomach, would probably occaſion death. I ſhall not enter into ſuch a diſquiſition, as many and repeated experiments, and much reflection, are neceſſary to give a ſatisfactory explanation; I ſhall only be happy if, in ſimilar circumſtances, it may prove as efficacious in other hands as it has done in mine."

This caſe applies with peculiar force in ſupport of the idea I entertain of the mode of action of opium mentioned above. There is no ambiguity in the ſtatement; every neceſſary information is given of the ſtate of the patient, both before and after the uſe of the opiate frictions. †

In the Medical Journal for Nov. 1801, a caſe well worthy of being preſerved, on account of the important facts it contains, is addreſſed to the Editors, by Mr. White of Bath, who concludes as follows. "What is very remarkable, ſhe never was ſick, nor vomited after the firſt friction, but fell aſleep *immediately* on the application of the opium, and ſlept ſome time. The fomentation and friction were continued a few days, gradually decreaſing the quantity of opium; and as her ſtomach could bear it, a little wine was frequently given. It may be obſerved, that not only the vomiting ceaſed, but the diarrhœa alſo; and ſhe had no complaint afterwards, except a ſlight pain of her legs. Her pulſe was reduced to 96 on the third day, which before was exceedingly quick." "She is recovering her ſtrength very faſt."

I conceive it will be impoſſible to explain the facts juſt related,

---

* More than this quantity was uſed in the ſame ſpace of time in the caſe of John Baylis.

† I once ſaw a ſimilar inſtance of Singultus, where this was the principal diſeaſe. Every thing proved ineffectual, and the patient died. Had I been at that time acquainted with the powers of opium applied externally, I ſhould not have heſitated to have recommended it.

lated, by ſuppoſing the modus operandi of the medicine to be the ſame in the two different ways of introducing it.*

After the many facts which have been adduced, could any doubts be entertained of opium being more efficacious and ſalutary in ſome diſeaſes, when externally applied, than when given internally, the caſe of Betty Richards, related by Mr. Jenkinſon, (p. 432 of the Medical Journal for November, 1801,) could not fail, I think, to remove them.

From a ſingle inſtance, no general concluſions can, with propriety, be drawn; otherwiſe, Mr. Boutflower's caſe of Tetanus (p. 443) would ſeem to eſtabliſh the ſuperior utility of opiate frictions in that diſeaſe; but I would rather wait till farther experience ſhall enable us to ſpeak with more certainty on a ſubject of ſo much moment. It will be obvious that they cannot be expected to ſucceed in every inſtance, (perhaps in no inſtance) without the aid of ſuch other means as the nature of the caſe and the cauſe producing it, may require.†

Manchester, Nov. 15, 1801.

[To be continued.]

Remarks on Vaccine Inoculation, by Mr. Ring, *Member of the Royal College of Surgeons in London.*

To the Editors of the Medical and Physical Journal.

Gentlemen,

In your Journal for October is an article, ſtating, that the Cow-pox appeared in the ſixth century, proving extremely fatal;

* It is here taken for granted, that the alterations ſtated to have taken place, are to be attributed principally to the opium, applied externally; not only in this, but in all the caſes, which I have taken the liberty of commenting upon.

† I have lately met with an inſtance of Tetanus, in a girl of eighteen, brought on by a blow on the hypogaſtric region. The inflammatory ſymptoms ran ſo high as to require the repeated applications of leeches, bliſters, antiphlogiſtic purgatives, fomentations, the warm bath, &c. Opium was alſo employed, both internally and externally. The accident happened ſeven weeks ago. When I ſaw her laſt, there was a conſiderable fullneſs and tenſion of the abdomen, and it appeared to me, that matter was forming within the cavity; the ſpaſms had nearly ſubſided for a few days, but at that time they came on more frequently. The opium internally was, I think, rather hurtful, and how far the external application was uſeful, I am unable to ſay.

fatal; and that the Small-pox in the human ſubject originated from that ſource. Theſe errors are ſo palpable, that I ſhould not have expected much miſchief to flow from them, had they not been copied into another publication, which may give them the greater ſanction. It is certain that the diſeaſe to which the Biſhop of Lauſanne alludes, is the murrain; and it is equally certain, that the cow can neither receive, nor communicate, the Small-pox.

The report, that Vaccine Inoculation had ſucceeded in Ruſſia, proves to have been premature; we have, however, great reaſon to believe, ſucceſs in that quarter will not long be wanting.

I lately received a letter from a medical practitioner in the county of Berks, in which he aſks, Whether the maſs of evidence in favour of Vaccine Inoculation is ſo great as it is preſumed to be? This query was occaſioned by ſome *pretended* failures; for it is not likely, that two or more inſtances of real failures ſhould happen at one time, and in the practice of one profeſſional man; when ſo many other individuals have inoculated from a hundred to a thouſand each, all of whom have reſiſted every form of the Variolous infection, to which they have been expoſed.

Excluſive of other fallacious appearances, which have given riſe to miſtakes in the practice of the new inoculation, ſuch as anomalous puſtules, there is another fertile ſource of error. The chicken-pox is frequently miſtaken for the Small-pox. Several inſtances of this kind have fallen under my own obſervation within a ſhort time. Hence, perſons who had undergone Vaccine Inoculation, have been ſuppoſed to have the Small-pox in the natural way, when the diſeaſe was the Chicken pox; and this latter has in many caſes been inſerted by way of inoculation, inſtead of the Small-pox.

While unfavourable caſes are circulated with great induſtry, by profeſſed enemies of Vaccine Inoculation, or its *pretended friends*, it appears to me, that the real friends of the practice, lulled into a ſtate of falſe ſecurity, are become rather remiſs; and, being convinced themſelves, imagine that the public are equally convinced. Hence they leave the field to their more active opponents, who improve this favourable occaſion to their own advantage.

The mildneſs of the Cow-pox is now undeniable; but, in regard to its efficacy as a preventive, there is a doubt remaining in the minds of many perſons, not much experienced in the practice, which challenges farther inveſtigation. I conſider it, therefore, as a duty to the public, to the cauſe of truth, and to Dr. Jenner, to declare, that having inoculated with Vaccine

 virus

virus as many as my other avocations would permit, and having particularly ſought for patients in thoſe places, where the Small-pox raged, I have never yet been able to diſcover a ſingle inſtance, where any one who had undergone Vaccine Inoculation proved ſuſceptible of the infection of the Small-pox.

Theſe proceedings have been watched with a jealous eye, by perſons not intereſted in concealing any real or apparent failure; whoſe ſilence, after the moſt ſevere ſcrutiny, is a ſtronger argument in favour of the new practice, than any atteſtation of mine. I have now inoculated above eleven hundred, who have gone through the Vaccine affection in a regular way; and, after convincing myſelf of the certainty of this preventive, by repeated inoculations with Variolous matter, left the taſk of putting the remaining part of my patients to the teſt of Variolous contagion in the natural way, to their parents; and their compliance with my requeſt has been ſo general, that, independant of accidental and unavoidable expoſure, I have reaſon to believe at leaſt nine out of ten have been voluntarily ſubjected to that teſt.

It neceſſarily follows from theſe obſervations, that the preventive employed by ſome practitioners is leſs efficacious; or the teſt to which their patients are afterwards ſubmitted, more powerful. In order to decide this queſtion, if any gentleman who has infected two, ten, or twenty of his own Vaccine patients with Variolous matter, will take the trouble of inoculating mine with the ſame, I will furniſh him with at leaſt a thouſand, on whom he may exerciſe his ſkill. This offer the opponents of Vaccine Inoculation, and its *pretended friends* ought to accept; or, in decency, to be ſilent.

One remark more is loudly called for. Your Journal, as well as other vehicles of intelligence on the Continent of Europe, having ſtated, that inflammations of the arm had continued obſtinate *in spite* of warm fomentations, I beg leave to expreſs my humble opinion, that they continued obſtinate *in consequence* of thoſe warm fomentations; and I hope I ſhall be excuſed for expreſſing alſo my ſurpriſe, that, in an age when the means of information are ſo acceſſible, and when medical ſcience is ſo far improved, one of its moſt incontrovertible axioms, that heat acts as a ſtimulus, and aggravates inflammation, can be ſo totally forgotten. I am, &c.

JOHN RING.

New Street, Hanover Square, Nov. 17, 1801.

Te

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

AS the following fact tends to corroborate a poſition advanced by Dr. Jenner, namely, that the Variolous as well as Vaccine virus, after the puſtules are in a declining ſtate often parts with its ſpecific properties, yet contains the power of exciting diſeaſe; I truſt you will give it a place in your valuable publication.

In April laſt, I inoculated three children of Mr. News, of Alſtone in this neighbourhood, with Vaccine matter, which did not communicate the diſeaſe; and as they were expoſed to the infection of the Small-pox, Mr. News wiſhed to have them inoculated with that matter. At that period the only matter I could procure, was from the extremities of a child who had paſſed the criſis of the diſeaſe two days, which I inſerted into the arms of the three children. The two elder did not receive the infection, but the arm of the youngeſt, a girl fifteen months old, inflamed and ſuppurated. On one ſide of the inoculated part two ſmall puſtules appeared ſpontaneouſly, and the *child was indisposed*, ſo that the parents and friends concluded ſhe would be ſafe from the diſeaſe in future. When the inciſion firſt inflamed, its appearance was very proper; but after the ſuppurative ſtage took place, I very much ſuſpected it was not characteriſtic of the true diſeaſe, and accordingly inoculated this child and the other with Variolous matter. My ſuſpicion was verified, for the diſeaſe was communicated to this child as well as the other two, and they all paſſed through its ſtages with perfect ſafety.

With reſpect to another obſervation of Dr. Jenner's, that the Variolous is capable of bringing latent diſeaſes into action; I have long been ſo fully perſuaded that ſcrophulous affections have ſucceeded the Small-pox, that I have invariably made this circumſtance an argument in favor of the Cow-pox. Nor have I, ſo far as my experience goes, ever ſeen maladies of any kind excited by the Cow-pox.

I am, &c.

JOHN PHYTHIAN.

Winchcombe, Glouceſterſhire,
November 15, 1801.

Account

Account of Diseases in an Eastern District of London, from the 20th of October to the 20th of November, 1801.

ACUTE DISEASES.	
Scarlatina Anginosa	2
Typhus	12
Peripneumonia	3
Erysipelas	1
Dysenteria	5
Cholera Morbus	3
CHRONIC DISEASES.	
Peripneumonia Notha	6
Tussis	16
Dyspnœa	13
Hæmoptoe	4
Phthisis Pulmonalis	3
Hydrothorax	2
Ascites	3
Anasarca	4
Cephalalgia	5
Vertigo	3
Paralysis	2
Hæmorrhois	3
Amenorrhœa	6
Chlorosis	5
Leucorrhœa	4
Diarrhœa	2
Vomitus	1
Dysuria	2
Herpes	7
Rheumatismus Chronicus	14
PUERPERAL DISEASES.	
Ephemera	3
Menorrhagia Lochialis	2
Abscessus Mammæ	1
INFANTILE DISEASES.	
Aphthæ	3
Herpetic Eruptions	4
Hooping Cough	2
Diarrhœa	4

The cases of Typhus will appear to have decreased in number since the last Report. We are happy to announce that this species of fever, which has so long prevailed, and the influence of which has been so extensively diffused, has lately appeared in much fewer cases, and that these have not been attended with so many severe symptoms as have formerly engaged our attention. Peripneumonies, catarrhs, and other affections of the respiratory organs, form, as they usually do at this period of the year, a considerable part of the list of diseases. Diseases of the bowels in different forms still continue. One of the cases of dysentery referred to in the List, was attended with symptoms not usually connected with this disease. The patient, who was much advanced in life, after labouring for some time under a severe dysentery, on rising one morning observed a spot of a livid appearance on one of her arms, which was soon succeeded by others; and, in a short time, vibices appeared in almost every part of the body. An unpleasant sensation in her mouth and gums was followed by a considerable discharge of blood from them, by which the whole surface of the internal fauces was tinged. During the presence of these symptoms, the dysenteric affections were such as to require immediate attention, and to forbid the use of remedies more directly adapted to the removal of the other disease. By the use of pulv. ipec. comp. followed by the exhibition of brisk

briſk cathartics, the dyſenteric ſymptoms were relieved, the ejection of fæces was procured, and the pain of the bowels ceaſed. Afterwards, in the free uſe of bark and acids, the vibices gradually loſt their livid hue, and in the courſe of a few days diſappeared.

List of Diseases at the Bath City Dispensary, from October 1, *to November* 1, 1801.

Anaſarca	1	Ophthalmia	2
Contuſion	1	Pleuritis	2
Cyſt	1	Pertuſſis	4
Cholera	4	Phthiſis	7
Catarrh	3	Pulmonary Complaints	3
Chloroſis	3	Pſora	2
Diarrhœa	2	Prolapſus Ani	1
Dyſenteria	3	Rheumatiſm Acute	6
Eruptiones	1	Synochus Bilioſa	41
Eryſipelas	1	——— Dyſenterica	7
Epilepſia	1	——— Pleuritica	3
Febris (ſimplex)	6	——— Gaſtritica	1
Fiſtula in Ano	1	Scrofula	1
Gaſtrodynia	3	Suppuration	1
Hernia	1	Scarlatina Anginoſa	1
Inteſtinal Hæmorrhage	1	Swelled Leg	1
Incurvated Spine	2	Tuſſis	2
Lepra	1	Ulcerated Legs	7
Leucorrhœa	1		

In two caſes of the Synochus Bilioſa Dyſenterica, the diſcharge of blood from the inteſtines was very conſiderable; and the patients were much reduced in conſequence. A decoction of the Swietenia was given in both inſtances, with obvious advantages. A few grains of calomel and rhubarb were occaſionally adminiſtered; for although the evacuations are frequent in thoſe caſes, it often happens that there is an accumulation of hardened fæces in the inteſtines.

State of the Patients admitted on the Bristol Dispensary, from the 1st of October to the 1st of November, 1801.

Aſthenia	5	Abortion	1
Anaſarca and Aſcites	3	Bilious	2
Aſthma	1	Conſumption	4

Dyſentery

Dyſentery	21	Puerperal Fever	1
Diarrhœa	2	Pleuritis	1
Dyſpepſia	1	Rheumatiſm	1
Febris Simplex	3	Retrovertio Uteri	1
Impoſtume	2	Scarlatina Anginoſa	1
Menorrhagia	1	Typhus Fever	40*
Nervous	3	Vertigo	1

Dyſenteries have been of late very prevalent in this city; the ſymptoms have been uncommonly violent, attended with great diſcharges of blood, and conſiderable pains, which have proved difficult and obſtinate to cure. Aſtringents have by no means been beneficial; as ſoon as opiates have been given, teneſmus came on, with violent pains and diſcharges of blood. In that caſe I have given Magneſs. vitriolat. ℥j. and repeated it as often as the ſtrength of the patient would admit. This proved the greateſt relief; it has always brought away more or leſs ſcybala, when the pain and teneſmus have abated, and diſcharges of blood diſappeared. After the bowels have been well evacuated, I have given the following mixture with ſucceſs: ℞. Tinct. opii ʒj. Vin antim. t. ʒij. Syr. ſimp. ʒij. Aq. menth. pip. q. s. ut ft. miſt. ℥viij. Capt. coch. iij. amp. 4tis horis.

Dyſentery combined with Typhus have appeared very frequently, and have been found very tedious to cure.

W. D. ROLFE.

Dispensary House, Nov. 10, 1801.

---

* The Editors do not intend to oppoſe their opinions to thoſe of their Correſpondents; but when they obſerve facts aſſerted which contradict their uniform experience, they are tempted to aſk, for the ſake of information:

Can TYPHUS be ſo frequent at this ſeaſon of the year?

Do indurated fæces REMAIN in the bowels after bilious diarrhœa?

An

An Enquiry into the Causes of the Insalubrity of flat and marshy Situations; and Directions for preventing or correcting the Effects thereof; by Mr. WM. CURRIE.

THAT flat and marſhy ſituations are unfavourable to health, and that intermittent and remittent fevers, with bilious evacuations, are particularly prevalent in ſuch ſituations during the ſeaſon of Autumn in temperate climates as well as within the tropics, has been remarked by phyſicians and hiſtorians in every age.

But although they have agreed with reſpect to the fact, they have differed materially with reſpect to the cauſe of this circumſtance.

A deſire of aſcertaining the true cauſe of this inſalubrity induced me to engage in the enquiry which I am now about to ſubmit to the public; and I hope the time and attention which I have beſtowed upon a ſubject ſo intereſting to mankind, will not be deemed labour miſemployed.

The atmoſphere in ſalutary ſituations, has been demonſtrated by Mr. Lavoiſier and his colleagues, to be a compound body conſiſting of two diſtinct gaſes or aeriform fluids, the one called azote or nitrogen gas, and the other oxygen gas or pure reſpirable air; and that in one hundred parts of the atmoſphere, the proportions of theſe gaſſes are 72 of the azote and 28 of oxygene, or as three to one.

From Mr. Vanbreda's experiments on the atmoſphere of marſhes in the autumnal ſeaſon, which he ſubjected to the common teſt of nitrous air in the eudiometer, it appears that theſe proportions were very different; there being but 14 or 15 parts of oxygen, to 84 or 85 of azote, but that the bulk was ſupplied, and the ſame weight preſerved by a certain quantity of carbonic gas or fixed air, and a ſmall portion of hydrogen and ammoniacal gaſes or aeriform fluids.

All theſe gaſes are the effects of vegetable and animal putrefaction, and muſt be derived from the ſoil, or the vegetable and animal ſubſtances connected with the ſoil.

The ſoil of marſhes is compoſed entirely of vegetable and animal ſubſtances, which have undergone the proceſs of putrefaction, and conſiſts principally of vegetable earth, carbon or charcoal and nitre, mixed with more or leſs calcareous and argilaceous earth, and by diſtillation affords oil, hydrogen, and azote.

From this ſoil, and from the various vegetable and animal ſubſtances mixed with it, and conſtantly putreſying in hot weather, it has been ſuppoſed miaſmata iſſue, which give origin to the diſeaſes peculiar to marſhy ſituations; and as there are no ſubſtances

substances but those gases, already enumerated, which can be discovered to issue from a marshy soil, or from putrefying vegetable or animal substances, if those diseases depend upon miasmata or effluvia, these miasmata must consist of one or more of the gases enumerated.

In order to determine this matter, it will be necessary to enquire into the effects which these substances, singly or combined, usually produce on the living human body.

If the carbonic gas or fixed air, when applied in a certain quantity or in a concentrated state, destroys life instantly by its action on the irritability of the muscular fibres of the heart, as from the observations of Messrs. Priestley, Bergman, Fontana, Cavallo, and other philosophers of credit, appears to be the case, nothing is more probable than that a less quantity, though much weakened by diffusion in, and mixture with, the atmospheric air, would operate in a similar manner, though in a less degree, and occasion a disease of a paralytic or insensible kind, and not an intermittent or remittent, since in these last the sensibility and irritability are manifestly increased.

That the hydrogen gas or inflammable air, has little or no share in the generation of the diseases under consideration, is rendered evident by the experiments of Chaptal, De Rosier, and Beddoes.

No alteration is made in their properties by the mixture of carbonic with hydrogenous gas. No decomposition takes place, no caloric is set at liberty, or heat rendered sensible by such union. We may therefore, from what has now been stated, conclude, that neither carbonic nor hydrogen gas, singly or combined, is the miasma or effluvium by which the diseases in question are produced.

In consequence of the putrefaction of farinaceous plants, and all such as abound more in gluten than in the saccharine or mucilaginous principles, as well as from the putrefaction of animal substances, an ammoniacal gas is produced, owing to the union of the hydrogen, evolved in the putrefactive fermentation, with the superabundant azote of the atmosphere. But this gas, instead of diminishing the powers of the human body, is well known to have a contrary effect, except when received into the lungs in a large quantity, and then it proves destructive from its stimulating quality, inducing a spasm on the glottis or bronchiæ. That neither the water of marshes, nor the exhalations which arise from thence, are septic or promoters of putrefaction, has been fully demonstrated by the experiments of Dr. Alexander, of Edinburgh.

But that any exhalation or other substance, should act on the moving powers or solids of the human body, several days after

it

it has been received into the body, without making ſome material change in the condition or quality of the circulating fluids is inadmiſſible, becauſe it is ſcarcely conceivable. That ſuch alteration is made in the quality of the fluids in putrid fevers is manifeſt from the contagious effects of the ſeveral excretions. But in caſes of intermittents and remittents which originate in marſhy ſituations, no ſuch evidence is afforded, for there is no authentic inſtance of theſe being contagious or communicable from one to another.

As no other exhalations or noxious matters than thoſe which have now been enumerated, can be diſcovered in the moſt unſalutary atmoſphere of marſhes; as there is no ſource from whence any other noxious ſubſtance can be introduced into the atmoſphere of ſuch ſituations; and as it is evident from the known effects of the gaſes which have been diſcovered in it, that they cannot have the effect of producing the diſeaſes under conſideration either when applied ſingly or united, we certainly ought to heſitate before we adopt the doctrine heretofore taught, reſpecting marſh miaſma.

But as it is well known that a very material alteration is made in the proportions, which one of the component parts of the atmoſphere bears to the other, by certain proceſſes of nature and art, let us enquire how far the alteration which is made in the atmoſphere of marſhes, by the proceſs of putrefaction, may affect the preſent queſtion.

Mr. Vanbreda's experiments prove that there is leſs oxygen in the atmoſphere of marſhes during autumn, when the weather is dry and hot, than in more ſalutary ſituations; and it is well known, from innumerable experiments made by different philoſophers, that this can only be diminiſhed by combuſtion, fermentation, putrefaction, or reſpiration, or a proceſs of a ſimilar kind.

It is alſo a fact fully eſtabliſhed, that the functions of life, as well as the proceſs of combuſtion and fermentation, can only be continued by the application of oxygenous gas, and that theſe are affected in proportion to the quantity and purity of the gas applied.

It was formerly diſcovered by Veſalius, and has ſince been confirmed by the obſervations of Doctors Lower, Prieſtley, Crawford, and others, that the blood in the pulmonary veins is of as red and florid a colour as in the arteries, which is the reverſe in every other part of the ſyſtem. This circumſtance has been demonſtratively proved to be owing to the action of the oxygen, or the baſe of pure air upon the blood in the pulmonary veins.

From the experiments of the diſcerning and ingenious Dr. Goodwin upon living animals, it appears, that the action of the

the heart cannot be continued by the reception of blood, which has not undergone this change of colour in the pulmonary veins from the application or introduction of oxygen. This fact has been since confirmed by the experiments of Dr. Girtanner, as may be seen in his Essay on the Principle and Laws of Irritability.

That blood impregnated with oxygen, or the base of pure air, is the necessary and appropriate stimulus for giving motion to the heart, and enabling it to carry on the circulation of the blood, was rendered evident from the gradual diminution and debility of its contractions, as the colour of the blood became darker when the pure air was excluded, and from its contractions becoming stronger as the blood recovered its florid colour from the application of pure air.

In these experiments, all the other functions of the body were observed to be proportionally affected with the heart. As its constractions diminished, the power of these also declined: As the power of the heart recovered, these also recovered.

By these experiments, we learn that the abstraction or exclusion of the oxygenous part of the atmosphere, in a given space, is sufficient of itself to deprive animals of life, by withholding the cause of action. Hence we are authorised, by the chastest rules of induction, to conclude that health and life must be affected, more or less, in proportion to the quantity of this vivifying principle, at any time abstracted from the atmosphere, which more immediately surrounds us.

The presence of the other component part of the atmosphere, the base of the azotic gas, though totally opposite to the oxygen, with which it forms a perfect compound, and neutral substance, when mixed in the proportions already mentioned, appears to have no share in destroying life, though its name is derived from a mistaken supposition that it had that effect; for the heart immersed in this gas, will retain its irritability several hours, in a warm situation, after all signs of life have disappeared in the rest of the body. Mr. Valli's experiments on animal electricity have established this fact.

Carbonic gas or fixed air, on the contrary, produces its destructive effects by a direct operation, for it destroys the nervous power, and the irritability of the muscular fibres, the instant that it is received * into the lungs, and comes in contact with the heart.

If the carbonic gas operated, as suggested by Mr. Kite, by inducing a spasm of the glottis, and thereby excluding the atmospheric air, the heart, as in other cases of suspended respiration,

* This expression is not correct; see Mr. Davy's experiments. EDIT.

ation, would retain its irritability for ſome time; but this is not the caſe.

From the facts and obſervations which have now been ſtated, I think it may be fairly concluded, that the cauſes of the unwholeſomeneſs of low and moiſt ſituations in the ſummer and autumnal months, is not owing to any inviſible miaſmata or noxious effluvia, which iſſue from the ſoil and lurk in the air, but to a very different cauſe, viz. to a deficiency of the oxygenous portion of the atmoſphere in ſuch ſituations, in conſequence of vegetable and animal putrefaction, in conjunction with the exhauſting and debilitating heat of the days, and the ſedative power of the cold and damp air of the nights.

For want of the refreſhing and ſalutary ſtimulus of pure air, all the functions of the body are performed imperfectly and languidly. The nervous ſyſtem, in particular, becomes preternaturally ſuſceptible of impreſſions from every change that occurs in the temperature of the ſurrounding atmoſphere. The application of, or expoſure to, a damper and colder ſtate of the air than uſual, renders the veſſels on the ſurface of the body powerleſs, and atonic, the brain and heart ſympathiſe with the extreme nerves and veſſels, the power of every function of the body declines, till the heart, rouſed by accumulating blood, reacts with increaſing velocity, and is relieved of the unuſual burthen.

That the cauſes which I have now aſſigned are the true ones, is rendered next to certain, from the frequent occurrence of thoſe diſeaſes, (which have heretofore been ſuppoſed to depend upon the operation of ſpecific miaſmata) in ſituations remote from marſhy ground, particularly in large and populous cities, where ſedentary occupations and want of exerciſe, render the inhabitants delicate and infirm. I have ſeen numerous inſtances of this kind even in the winter ſeaſon, when no effluvia from marſhes could poſſibly exiſt, eſpecially among thoſe who had been previouſly debilitated by other diſorders. Nor is it uncommon for perſons who have recovered from intermittents in the autumn, to have frequent recurrences of the ſame diſeaſe in the winter, merely from ſitting in a damp room, or other expoſure to cold.

If the diſeaſes of marſhy ſituations were produced by a ſpecific matter, they could never be produced by any other cauſe; but as they are frequently induced in ſeaſons and ſituations where that ſuppoſed ſpecific matter or miaſma cannot poſſibly exiſt, there is nothing more clear than that they are not produced by any ſuch ſpecific matter.

The opinion that thoſe diſeaſes are the product of ſpecific matter generated by vegetable putrefaction, appears to be rendered groundleſs from the diſeaſe varying in its type and ſymptoms,

toms, in proportion to the extent and putridity of the ſoil, ſtate of climate, ſeaſon and weather with reſpect to heat, moiſture, &c. and alſo in its not being contagious, the reverſe of which is the caſe with all known diſeaſes that are derived from ſpecific matter.

We are aſſured by the accurate Monro, in his account of the diſeaſes which prevailed in the military hoſpitals in Germany, in 1761 and 1762, that the intermittent fever ſeldom attacked any but thoſe whoſe ſolids had been previouſly relaxed by the preceding heat of the ſummer, except when they had been fatigued and over-heated by the ſun, and afterwards expoſed to the evening dews.

Dr. Lind, of Windſor, ſays, ſudden expoſure to cold occaſioned either an inflammatory fever, or a ſimple intermittent, at Bengal, according to the prediſpoſition of the body.

The ſcurvy, as well as the diſeaſes already enumerated, alſo appears to derive its exiſtence from a deficiency of pure air in conjunction with a cold and moiſt atmoſphere, and a diet of ſalted fleſh meats; for it generally prevails in long voyages, after a continuance of wet weather. The hatches being kept ſhut at ſuch times, prevents ventilation; in conſequence of which the oxygen becomes exhauſted.

Captain Cook, in his two laſt voyages, preſerved his crew from the ſcurvy by frequent ventilation, conſtant cleanlineſs, ſuitable cloathing, and ſtrict diſcipline.

Dr. Trotter aſſures us, that in a ſlave ſhip of which he was ſurgeon, the ſeamen that were conſtantly on deck, and fed with the ordinary ſea diet, remained free from the ſcurvy, while the ſlaves that lived principally on vegetables, but breathed a confined impure air, fell miſerable victims to it.

The remarkable caſe of the blue boy,* deſcribed by Dr. Sandifort of Leyden, furniſhes another ſtriking example of the importance of oxygen in the preſervation of health and life, as well as a confirmation of its being the cauſe of the red colour of the blood.

In this boy, whoſe ſkin was as blue as indigo, the aorta communicated with both ventricles of the heart; in conſequence of which the greateſt part of the blood was immediately propelled from the right ventricle into the aorta, ſo that very little paſſed into the pulmonary artery to be oxygenated.

An opinion equally erroneous with that which has lately prevailed reſpecting the cauſes of intermitting fevers, &c. has alſo been delivered down from age to age, reſpecting the cauſes of continued fevers of the nervous or putrid kind.

The

* I have ſeen a ſimilar inſtance. T. B.

The doctrine formerly taught reſpecting theſe, was, that they derived their exiſtence from the effluvia of dead and putrid animal ſubſtances: But from more recent and accurate obſervations, it appears that the contagion by which this kind of fever is produced, as well as thoſe of a peſtilential nature, is always derived from the living human body in confined and unventilated ſituations; and it is probable that the effluvias thus excreted, partake of the quality of nitrogen gas, from their being rendered harmleſs by an union with oxygen or the baſe of pure air.

It appears more than probable alſo, from the hiſtory of the circumſtances always preſent at the time febrile contagion is generated, that it is rendered virulent and powerful, in proportion to the abſence or defect of oxygen, and the degree of heat to which the living body has been expoſed in ſuch ſituations. It was a concurrence of theſe circumſtances which gave origin to the yellow fever which appeared in Grenada in the beginning of the year 1793, and which was afterwards imported into Philadelphia, as appears from the account publiſhed by Dr. Chiſholm.*

Noxious effluvia indeed frequently ariſe from putrid animal ſubſtances in confined ſituations. Dr. Monro mentions a remarkable inſtance of this, and ſome later examples are recorded by Mr. St. John; but it does not appear from theſe caſes, that thoſe noxious effluvia produced any ſymptoms reſembling thoſe of putrid or peſtilential fevers; on the contrary, they acted as direct ſtimulants, and occaſioned inflammatory affections without being preceded by that ſenſe of debility which always precedes thoſe fevers that are occaſioned by febrile contagion.

Having now ſhewn that the diſeaſes which prevail moſt generally during the autumnal ſeaſon in low and marſhy ſituations, owe their origin, not to inviſible exhalations or miaſmata, but to the cauſes which I have aſſigned, the prophylaxis, or the means of preventing the occurrence of thoſe diſeaſes, muſt be ſimple and obvious.

Theſe are to introduce and increaſe the proportion of oxygenous gas in the ſuperincumbent atmoſphere, and to prevent its future abſtraction, by cutting off or diminiſhing the ſources of putrefaction.

It would be a happy circumſtance if the application of the means ſuited to produce an amendment in a body ſo large and fluctuating as the atmoſphere, was as practicable as the means ſuited to effect that purpoſe are obvious: but unfortunately, this

* Vide Chiſholm's Eſſay on the Fever of Grenada in 1793, &c.

this requires too much labour and expence to admit of extenſive application, eſpecially in a country where population and wealth do not bear a due proportion to the extent of territory.

We ought however to attempt every thing in our power to effect ſo deſirable and uſeful an event.

Chemiſtry furniſhes various articles by means of which we can generate and introduce a ſupply of oxygen into the atmoſphere, as well as alter the quality of thoſe noxious gaſes with which it is occaſionally contaminated.

Theſe however can only be employed in a very limited and partial manner, and of courſe can only produce a limited and partial amendment.

I ſhall therefore mention only a few of the ſubſtances that may be occaſionally employed for this purpoſe.

A large portion of oxygen may be furniſhed by the decompoſition of nitre, as is demonſtrated from its maintaining the combuſtion of inflammable bodies.

If lighted charcoal be placed in a proper expoſure to the open air, it will continue to burn till the whole be reduced to aſhes.

If nitre be mixed with charcoal, and when kindled placed in a cloſe veſſel, the combuſtion will continue as well as if expoſed to the open air; whereas, without the aſſiſtance of the nitre, the charcoal would be immediately extinguiſhed in that ſituation for want of a ſupply of oxygen.

Mr. Schele, by heating nitre to red heat in a retort, received into a moiſtened bladder more than fifty ounces in meaſure of oxygen gas from one ounce of nitre. A pound will therefore furniſh 800 ounces.

Nitre ground with two-thirds of its weight of minium, and moiſtened with water ſo as to form a paſte, burns very rapidly, and emits a conſiderable quantity of pure air.

But the grand engine by which the ſources that deprive the atmoſphere of its ſalutary and vivifying principle, are to be cut off; and the great magazine, from whence a ſufficient ſupply is to be obtained, muſt be ſought for in the art of agriculture.

The ſtagnant waters may be carried off, and the ſoil of marſhes rendered dry, by means of drains, deep trenches, and wells; and farther ſtagnation and putrefaction prevented, by conſuming the dead weeds, graſs, and woods, and by filling up the flats, ſinks and hollows with clay, ſand, or lime.

And the atmoſphere may be ſupplied with a profuſion of oxygen, by cultivating on ſuch ſoils, graſſes and plants of vigorous growth, and eſpecially thoſe which live and flouriſh lateſt in the ſeaſon. For vegetables, while living and growing, when expoſed to the rays of light, conſtantly decompoſe the water they imbibe from the earth and air, and while they retain

retain the hydrogen or base of inflammable air for the formation of oil, wax, honey, or resin, they replenish the atmosphere with oxygen."*

When it is impracticable to render marshy situations dry, on account of their extent, they should be kept constantly flooded by means of dams and sluices, to prevent the effects of putrefaction, for when dead vegetable or animal substances are immersed in water so as to be entirely excluded from contact with the air, putrefaction can only take place in a slow and imperfect manner.

But clearing the woods, plants, and herbs, from marshy or fenny tracts without draining off the stagnant water at the same time, and destroying the dead herbage by fire, instead of rendering such situations more healthful has been found to have a different effect, because a greater extent of putrescent surface is thereby exposed to the rays of the sun, and of course a greater portion of oxygen abstracted from the atmosphere. It is owing in a great measure to this circumstance, that all new countries are so generally fatal to the first settlers.

The same land after it has been cultivated a few years, especially if there be sufficient declivity to prevent the water from stagnating, loses its unwholesomeness, the putrescent substances mixed with the soil or superficial stratum of the ground having finished the putrefactive process by that time. In order therefore to render and preserve marshy countries healthful, they should be preserved dry and clean by means of the spade, the plough, and the rake.

When the level situation of a place prevents the stagnant water from being carried off by drains, deep wells should be dug, in different places, for the water to collect in, by which means a greater portion of the soil will be rendered dry, and less noxious.

To prevent still farther the injurious effects of residing near marshes or mill-ponds; rows of such trees as grow rapidly, and retain their verdure late in the season, should be planted between those situations and the mansion, for the purpose of intercepting the moisture in its progress, while they furnish a constant supply of oxygen to the atmosphere.

Lodging in the upper story of a house has been found to preserve health during a sickly season, instances of which are recorded by Sir John Pringle. This appears to be owing to those situations being out of the reach of the moisture from the ground.

---

* Chaptal's Chemistry. Ingenhousz's Observations, &c.

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

THAT our Profeſſion has of late years been enriched with a variety of eſſential improvements both in Operative Surgery and Pharmacy, no one who is not wilfully blind or egregiouſly ignorant will venture to deny; and nothing can tend ſo much to promote the continuation of its progreſs towards perfection, as the liberal communications of medical men, through your's, as well as through every other channel of public notoriety; and if truth be made the ground work of theſe publications, an immenſe volume of Natural Pathology will gradually be unfolded, and each ſucceeding year increaſe its pages, and add to its ſtock of valuable materials. By conſulting this real Materia Medica, the ſtudent and young practitioner will derive their knowledge from its pureſt ſource, that is, from the treatment of analogous caſes by their cotemporaries in practice; and to accompliſh this moſt deſirable plan, be it remembered that truth only is wanting; and ſuch is its intrinſic excellence, that it is equally valuable when wrapt in the coarſe garb of provincial inelegance as when adorned with all the drapery of refined and claſſic language.

In a practice of ſeventeen years, both in Surgery and Pharmacy, it has been my cuſtom to take notes of all caſes whoſe idioſyncraſies, mode of treatment, or termination, afforded any reaſonable grounds to hope that a ſubſequent peruſal of them would improve either my own practice or that of others; and during the late war, the office I have held of Surgeon Agent for ſick and wounded Seamen and Priſoners of War both in this and the adjacent ſea-ports, has conſiderably increaſed my collection. Theſe materials, conſiſting of plain narratives of caſes, with occaſional remarks, I intended to arrange and publiſh as a volume of medical facts, but the want of leiſure combined perhaps with a natural indolence have for ſeveral years prevented my putting this intention into execution, and your Journal offering now ſo pleaſing and extenſive a channel of communication with the public, it will afford me pleaſure to become your occaſional correſpondent, in preference to the more laborious plan I originally intended to adopt.

The following caſe being, I believe, very unfrequent, and requiring the immediate application of a man's beſt judgment as well as manual aſſiſtance, to avert impending death, and in which not a moment ſhould be loſt, I have ſelected it as my firſt

firſt; and ſhould you deem it worthy a place in your Journal, the publication of it will oblige, your's, &c.

Bideford, October 21, 1801. WILLIAM SMITH,
Member of the Corporation of Surgeons of London.

CASE I. AN INVERSION OF THE UTERUS.

In the autumn of the year 1799, Mrs. ———, a young married woman about twenty-four years of age, tall, extenuated, and of a delicate conſtitution, finding herſelf pregnant of her firſt child, requeſted my attendance on her as her accoucheur, at her houſe, about two miles from this town; but having for ſome years declined this part of the profeſſion, particularly in the country, and my aſſiſtant being deemed a good midwife, I repeatedly declined her ſolicitations. Her eldeſt ſiſter, however, dying in child-bed ſoon after, the violence of her apprehenſions increaſed to ſuch a degree, that I was induced, though reluctantly, to wave my objection, and promiſed to attend her.

Her labor commenced about four o'clock in the afternoon of the 9th of February, 1800; its progreſs was gradual, and in no reſpect differed from uſual natural labors. Her mind only underwent the moſt frightful apprehenſions; the recent death of her ſiſter agitated her beyond meaſure, and every approaching pain ſhe conſidered as the harbinger of her own diſſolution. In vain I tried to ſoothe her fears by aſſurances that ſhe was in the beſt poſſible way, and at no very diſtant time would be happily delivered; the recurrence of every throe renewed her alarm; and in this ſtate of agitation of mind, (at times almoſt amounting to agony) ſhe continued until three o'clock in the morning of the 10th, when ſhe was delivered of a fine boy.

When the labor drew near to a concluſion, and the head being elongated protruded in perinæo, I obſerved that it was retracted between each pain with unuſual violence, occaſioned, as I afterwards found, by the placenta being attached to the fundus uteri, and the extreme ſhortneſs of the funis, which after the excluſion of the child, created conſiderable embarraſſment in making the neceſſary ligatures.

Theſe circumſtances neceſſarily took up ſome time, during which ſhe had fainted; having delivered the child to the nurſe, I applied volatiles to the noſtrils, gave her ſome wine and water, and waited ſeveral minutes without making any effort to ſolicit the ſeparation of the placenta. Shortly after a violent pain called me to the bed-ſide; and upon touching the funis, (which had been conſiderably protruded ſince the ſeparation of the child) I found none of the uſual reſiſtance; and another

pain fucceeding, fhe exclaimed that her bowels were coming from her, and inftantly an immenfe tumour was projected with confiderable violence, ex vagina, and extended almoft to her knees. A dreadful fyncope immediately enfued, with fubfultus tendinum, and a pulfe fcarcely perceptible.

Alarmed exceedingly, I began an examination of this fingular phenomenon, which was of an oval form, and firm and flefhy in fubftance; when tracing the funis to the placenta, I found it attached to the apex of the tumor, which left me no room to doubt but that the whole uterus in a collapfed ftate (the ufual contraction not having taken place after birth) was inverted and excluded from the body, and that the extreme point of the tumor, with the cake affixed thereto, was no other than the fundus uteri completely turned infide out.

Thus circumftanced, the remembrance of this infrequent and generally fatal cafe fo impreffively defcribed by my worthy friend and teacher Dr. Lowder, in his admirable lectures, flafhed upon my mind; and in conformity with his advice, without lofs of time, I peeled of the placenta, and applying the back part of my hand with my fingers clenched to the apex or inverted fundus, I carried up my arm encircled in the double foldings of the uterus, per vaginam, until I had reftored the uterus to its natural pofition; nor did I withdraw my arm immediately, which operating as an extraneous body, foon excited the uterus to action and produced a confequent reduction of its diameter.

By thefe means fhe was roufed from her fyncope; cloths wetted with cold vinegar were applied to the abdomen and pudenda, and fhe took tinct. opii gt. 40, in a glafs of wine.

The hæmorrhage was moderate, but the fubfultus and exceffive quicknefs of the pulfe continued for feveral days, and fevere fymptomatic fever came on, with a total inability of motion, the flighteft elevation of the body producing faintnefs and an aggravation of all her fymptoms.

On the 11th, fhe had urined freely; fome perfpiration was obtained by the aqua ammonia acetata combined with tinct. opii, and at night fhe flumbered a little.

On the 12th, a ftool was procured by an enema, and a flight procidentia uteri, in its contracted ftate, took place; but the fupine pofture, and flight preffure by the nurfe, foon reduced it.

From the 13th, the fever gradually abated, the milk was fecreted, and fhe fuckled her child fix months, but her health has been very delicate ever fince, occafioned by fevere pains of the back and loins, and great weaknefs.

There appears to me to be an important diftinction between this cafe, and that fo well defcribed by Mr. Welfh in your 27th Number.

Number. In Mr. Welſh's caſe, the uterus deſcended with, or immediately after the child, without pain or any ſeverity of ſymptoms; but in this caſe an interval of at leaſt ten minutes had elapſed after the child was born, and the inverſion was attended with a freſh expulſive excitement, and pain equally as powerful as if a ſecond child was to have been born.

Quere.—Did this extraordinary caſe ariſe merely from the poſition of the placenta and ſhort funis, neceſſarily dragging down the fundus uteri, when the child was born? Or, was not her whole frame prediſpoſed to a morbid atony, thereby occaſioning the want of the uſual contractile action of the uterus poſt partum from the operation of the mind?

To the Editors of the Medical and Phyſical Journal.

Gentlemen,

If you ſhould think the encloſed Caſes at all worthy the attention of your numerous Readers, they are with due ſubmiſſion offered to your conſideration. The firſt is a caſe of violent Concuſſion of the Brain, ſucceeded by active inflammation of its membranes, which terminated ſucceſsfully. The laſt is defective, inaſmuch as I was unacquainted with the ſtate of the patient previous to his death; but is merely the hiſtory of a diſſection of the dead body: it was a ſubject who deſtroyed himſelf by drinking ardent ſpirits to exceſs. It did not fall to my lot to attend the firſt caſe till the laſt or convaleſcent ſtage, ſo that I can give no minute detail of it, but muſt confine myſelf to the general circumſtances of it, as they were communicated to me by the reſident Surgeon of the Infirmary where the patient was attended.

July 25, 1798. A private ſoldier, about twenty-four years of age, of a full habit, but previouſly healthy, fell from the top of a loaded baggage waggon upon a ſtone pavement, ſomewhat in a ſtate of intoxication. Being called to the man immediately afterwards, I found the injury was received in the ſituation of the lower and poſterior angle of the left parietal bone; it was accompanied with a profuſe hæmorrhage from the correſponding ear, and the man was ſoon conveyed, ſenſeleſs, to the county hoſpital in Kent. Prior to his removal, I had examined the cranium, the wound in the integuments barely admitting the introduction of a common probe. I could not diſcover either fracture or depreſſion; but as ſoon as he was put to

to bed in the hoſpital, the attending Surgeon thought himſelf juſtified in making a free inciſion in an oblique direction cloſe to the wounded part; however, no injury was perceived on the cranium exteriorly. Notwithſtanding the comatous ſtate of the patient at this ſtage of the injury, the leaſt preſſure upon the ſwelling of the ſurrounding parts induced him to ſcream violently, and to utter execrable oaths. As ſoon as the Surgeon's fingers were withdrawn, the man ſunk into a profound ſleep, attended with ſtertor. When he awoke, he was liberally let blood from the arm, and confined to a ſtrict aſthenic plan; his medicines were of the ſaline claſs, without any opium; and his diet principally farinaceous. On the following evening he was attacked with violent delirium, and ſymptoms indicating acute inflammation of the membranes of the brain. He had now a bliſter applied to his head, and was allowed to bleed freely from an inciſion made in the temporal artery. In this alarming ſituation the patient remained with little variation, under ſtrong confinement for twelve or fourteen days, ſecured to the bed by ſtraps, and watched day and night. He was conſtantly raving, and talking to himſelf or his attendants; his eyes preſented a wild ſtare, and ſeemed to project from their orbits; he would appear to doſe at intervals, but his reſt during this period was never perfect, ſo that the leaſt noiſe would arouſe him. It is a little ſingular to relate, that the eye on that ſide of the head that ſuſtained the injury was never cloſed during this violent derangement. The ſtate of his pulſe, and excretions within this period, or whether the patient had the natural command over the evacuations from the rectum and urinary bladder, are points that I am utterly at a loſs to communicate. With regard to the baſis of his medical treatment, he was found to derive the principal benefit from frequent bleeding from the temporal artery, and the occaſional repetition of bliſters to the head. The delirium ſubſided gradually, but the irritability which followed it, was denoted by an impatience of contradiction, ſtate of univerſal tremor; and frequently during recovery, he experienced ſlight paroxyſms of mental derangement until Auguſt 19, when he completely regained his intellects. The laſt time the operation of bleeding from the temporal artery was performed, he experienced an obſtinate hæmorrhage afterwards, in conſequence of ſtruggling, and friction againſt the bed-cloaths; probably this artery was not entirely divided, as it is obſerved in general to retract readily enough after this operation, where the inciſion is freely made.

After a month's confinement in the hoſpital he returned to his regiment, (then quartered about eighteen miles off) in a very debilitated ſtate. For many days he was affected with univerſal

universal tremor whilst seated, and had obviously lost much of the energy of his mind. His countenance was pale, but not much emaciated; his pulse, for a considerable time, was feeble, but otherwise tolerably regular; and his appetite for food was moderately good. He was in the habit of taking, under my care, a strong decoction of cinchona with the acid elixir of vitriol, until his final recovery, which was established in about three weeks from his release from the Infirmary. Having attended to this case at first with much apprehension about its final event, I felt a very lively interest in the man's welfare, and thought myself fortunate in procuring, through the kindness of the house surgeon to the Infirmary, even the incomplete history of his case, such as my notes have enabled me to produce.

Before I conclude, I would beg leave to add, that the original situation of this patient corresponded with what an attentive practitioner will have frequent occasion to observe in injuries of the head, which are mostly complicated; viz. that the common symptoms of concussion were so strong at the first period of his indisposition, that the pulse was slow and oppressed, and that great coldness pervaded the upper and lower extremities. I have made no mention of any purgative plan being pursued, which no doubt was discretionally interposed; and which the celebrated Dr. Fordyce lays great stress upon in cases of inflammation of the brain from external violence. In bringing forward this case, I am aware that it will not elicit any new doctrine, but merely confirm the evidence of others that may be associated with it, of the striking good effects of blisters, and arteriotomy from a part contiguous to the injury.

Case II.

I could gather but few particulars respecting the situation of the unfortunate subject of this case prior to his death. He was a robust young Irish Dragoon, and I was accidentally requested by the inspecting physician of the district who had attended him during his confinement, to assist in examining the dead body. The poor man had complied with the example of several of his fellow soldiers in drinking large quantities of strong spirits, who all, except himself, had escaped with impunity. Soon after finishing the last potion, I understood that he became very comatous, in which state he remained, incapable of speech, till the fourth day, when he expired. He had been let blood once or twice very freely, and had been forced to take some strong cathartics, but swallowed very imperfectly; in fact, nothing alleviated him in the smallest degree. The dead body, which was inspected the following day, had a dark purple hue, with marks of

of partial extravasation about the head. Having made a horizontal section of the ossa cranii, it was observed that the dura mater was very much crouded with vessels carrying red blood, and upon its upper surface, in the direction of its proper blood vessels, were seen a number of small excrescences of a glandular appearance. This membrane no where adhered to the subjacent tunics, but the pia mater was extremely vascular, and upon the entire surface of the tunica arachnöides was found a thick stratum of true pus. The tunica arachnöides and pia mater were in close contact, so that we could distinguish no natural separation, but they adhered as one membrane to the cerebrum. The ventricles were exposed, but no preternatural appearance of pus or redundant serum occurred. The plexus choroides was paler and less vascular to the eye than usual; we also remarked, that the glandula pinealis was larger than ordinary, and contained proportionably more earthy matter. The membranes of the cerebellum were examined, but nothing remarkable was observed, its investing membranes shewed no mark of secreted pus; and the origin of the medulla spinalis looked healthy. The pupils of the eyes were extremely dilated, and his sensibility was nearly extinguished soon after taking the spirits. It may be worth while to observe, that during his confinement he was frequently seen to rub his forehead and the epigastric region, as if to point out in some measure the sources of his suffering. We next examined the abdominal viscera. The liver appeared free from disease, and the gall bladder was nearly full of bile. The patient having taken scarcely any nutriment during his confinement, the stomach was found quite empty; but upon making an opening into it through its whole extent, its villous internal coat was highly vascular, exhibiting strong vestiges of recent inflammation. The beginning of the duodenum assumed nearly the same appearances. The small intestines were much collapsed, and the peritoneal covering was observed to be highly injected, as it were, by the inflammation; as was likewise a portion of the colon on the right side. We lastly examined the thoracic viscera: All that we remarked here, was an unusual florid appearance of the pleura covering the aorta and the pulmonary artery. Upon opening the heart, we found its auricles and ventricles loaded with a substance of an intermediate nature between the coagulating lymph of the blood and a medullary fat. The lungs were free from disease, and did not appear to have sympathized with the other parts of the system.

Having recited the particulars of this dissection as they were noted immediately afterwards, in the summer of the year 1798, I cannot help suggesting that few cases are recorded in common,

mon, which afford, from the ſame cauſe, ſo ſtriking an inſtance of active inflammation. One eſſential point this caſe appears to controvert, which now inſinuates itſelf into the modern doctrine of medical men, namely, the ſedative effects, or preconceived indirect debility, generally attributed to the diffuſible ſtimulus of ſpirituous liquors. It is difficult, in compliance with this theory, to explain the morbid effects of this active poiſon. Had this patient, in the firſt inſtance, taken a ſtrong emetic, and warm watery diluents been largely adminiſtered, there is a probability that the miſchief might have been in great meaſure arreſted: Still, however, caſes that have terminated like the preſent, fatally, are not wanting to demonſtrate the inefficacy of our art, even when aſſiſted by the moſt enlightened human reaſon.

I am, &c.

J. SYER.

To the Editors of the Medical and Phyſical Journal.

Gentlemen,

In the laſt Number of your very valuable Miſcellany, I obſerve the detail of a Caſe of Cancer of the Cheek, in the perſon of Mr. Knight of Friendsbury, related by Mr. Atkinſon of Iſlington; wherein the firſt appearances and inſidious progreſs of that truly dreadful diſeaſe, is deſcribed with ſufficient accuracy to give any one who has had much opportunity of obſervation in chirurgical practice, as good an idea of the nature of the diſeaſe as could be gained by ocular examination. I ſhould not preſume to offer any obſervations on this caſe, were it not that Mr. Atkinſon ſeems to expreſs a wiſh that ſome of your Correſpondents would take it into conſideration, and "probably ſuggeſt ſome means for alleviating the ſufferings" of the patient.

It would afford me great ſatisfaction, if the obſervations which I have to offer had a "probability" of alleviating ſuch ſufferings as a perſon labouring under ſo ſevere and terrible a diſeaſe muſt endure. By the account given by your Correſpondent, this caſe ſeems not to have been underſtood in the firſt inſtance; the primordium of the diſeaſe appears to have been ſmall, and of little moment; an inſulated ſpeck of morbid action, or of morbid ſtructure, the *complete and entire* removal of which by the knife, an operation attended with no difficulty if timely performed, might have removed the diſeaſe altogether;

for I believe it is now generally agreed by Surgeons, that Cancer, in its origin, is a diſeaſe entirely local, not proceeding from, or dependent on, any acting power or morbid affection ſituated in the ſyſtem or general conſtitution; that its morbid actions are, in the firſt inſtance, confined to its own limits; that it has the power, after a time, by a ſpecific inflammation, of generating a ſpecific poiſon, which, by being received, by means of the abſorbents that ariſe from the diſeaſed part, into the ſyſtem, has the power of affecting the parts through which it paſſes, with the ſame kind of diſeaſe as that from which itſelf was produced.

While, therefore, a diſeaſe of this kind remains in an occult, indolent ſtate, in a ſtate of ſcirrhus merely, not producing matter which may be abſorbed; while it is perfectly circumſcribed, not extending any degree of induration or thickening to the ſurrounding parts; and when, from its peculiar ſituation, it is within the reach of the knife of the Surgeon, there can be no queſtion as to the mode of conduct to be recommended. We cannot always ſucceed in our endeavours to perſuade patients for their benefit in ſuch caſes; for while they experience little or no trouble from a diſeaſe, they are frequently unwilling to ſubmit to an operation for its removal. But were the nature of the caſe fairly ſtated to them, and the diſmal picture of what they have every reaſon to expect, placed before their view, there are, I believe, few individuals who would refuſe to embrace ſafety from ſuch a terrible malady, at the expence of a few moments tranſitory pain. After all, if a patient remains obſtinate, no blame can be attached to the practitioner; but if ſuch operation is not propoſed at ſuch time only as it may avail any thing, he is certainly very open to cenſure.

In the preſent ſtate of this diſeaſe, removal by the knife is quite impracticable, and certainly not to be thought of; indeed, it is extremely difficult to ſay, what line of conduct we ſhould purſue in ſuch a ſevere affliction. When the diſeaſe has advanced to ſuch a dreadful ſtate, it is generally judged uſeleſs even to have recourſe to any remedy adapted to cure the diſeaſe, but merely to direct our practice to ſuch means as will, from time to time, afford ſome degree of eaſe and comfort to the ſufferer.

I ſhould not have troubled you, Gentlemen, and the public, with theſe obſervations, but from the very eminent advantage which I have ſeen reſult from one remedy in caſes of ulcerated Cancer, particularly, I think, when ſituated in the face. The remedy is by no means new; but it is not, I believe, (where I have had an opportunity of obſerving the practice of others) ſo frequently uſed as its merits demand. The remedy I allude to is the Arſenic, as a cauſtic. Among other caſes in which I have

have witneffed decided advantage from its application, I will take the liberty briefly to mention one which was under my care about two years fince.

The mafter of a fifhing-fmack had for feveral months a confiderable induration of the under lip, which by degrees became painful, and continued to increafe in fize and hardnefs for fome time; at length the pain became exceffive, ulceration began, and fpread rapidly; he then, but not before, applied for advice. When I firft faw him, the greater part of the under lip (extending from the left angle of the mouth to beyond the centre of the lip) was in a ftate of ulceration, exhibiting the true characteriftic appearances of Cancer, the whole furface being filled with thofe peculiar fungous excrefcences which arife from cancerous tumours, frequently bleeding at the flighteft touch; the boundaries, for a confiderable extent, of a ftony hardnefs, and much inflamed; the pain excruciating and unintermitting; the ability to chew his food nearly loft from the ftiffnefs of his jaw; the faliva running continually down his chin. In this ftate I determined to make a trial of the arfenic, but feared, from the furrounding hardnefs, that the difeafe was too extenfive to admit of removal. I mixed fome of a powder, compofed of arfenic, fulphur, &c. (nearly fimilar to the celebrated formula of Plunkett) with a little white of an egg, and fmeared it over the whole of the external part of the lip, as far as the Cancer extended, avoiding as much as poffible the inner part of the lip; for which purpofe I infinuated a piece of lint between the teeth and lip, and advifed him not to fwallow any of his faliva. The pain at firft was confiderable, but foon abated; a deep efchar was foon formed, which in a few days began to feparate. When that procefs was complete, it left a fore, difcharging thick matter, inftead of the thin, cancerous virus which before exuded from it; the indurations were likewife much leffened. But thinking the cauftic had not penetrated fufficiently deep, I repeated its application a fecond, and again a third time. By the period of the feparation of the third efchar, the whole lip, nearly, (except a portion toward the right angle) was deftroyed by the cauftic; the fore, however, exhibited a clean and healthy appearance; all the induration in the cheeks and chin, which before felt like ftone, was entirely vanifhed; all pain was at an end; the cavity foon filled with healthy granulations, and his lip very fpeedily was healed, and fcarcely fhewed a trace or fcar of the difeafe which had exifted.

This difeafe was certainly not nearly fo extenfive as that of Mr. Knight, and it may be thought that they bear no comparifon; but, furely, in a difeafe of fo terrible a nature, any hope is better than refigning a patient to his fate. In the cafe juft related,

related, I had little *hopes* of ſucceſs; but had deſpair gained aſcendancy over that ſmall ray of hope, this patient, in all probability, would have lingered out a painful exiſtence under a loathſome malady.

From what I have ſeen of arſenical applications in this and various other caſes, it appears to me that they poſſeſs a ſpecific power in the deſtruction of the cancerous fungus; certain it is that the eſchar made by it in cancerous ulcers is much deeper than that which it will produce in any other kind of ulceration. Suppoſe, in the preſent caſe, (if it ſhould be thought worth a trial) this cauſtic were to be applied to a ſmall portion only of the tumour at firſt, to mark its effects: If this eſchar ſhould ſeparate kindly, and the pain ſhould be ſufferable, the application might be repeated again and again, more or leſs freely, according to its effects.

With reſpect to the internal adminiſtration of this mineral in caſes of open cancerous affections, I can ſay but little from my own experience; I have given it in theſe caſes, but it has never been continued a ſufficient length of time, or taken with ſufficient accuracy, to warrant a concluſion for or againſt its utility: But we are authorized, from the obſervations of a correſpondent of great accuracy and reſpectability in a late number of your Journal, to conclude that the powers of Arſenic, internally exhibited, are very efficacious in theſe diſeaſes, of which he has given us ſome well-marked Caſes.

I beg leave again to obſerve, that I ſhould not have taken the liberty to offer an opinion on any caſe under the care of other gentlemen, but from Mr. Atkinſon's wiſh in his letter.

I am, your's, &c.

New Brentford, Nov. 9, 1801.

J. RICKARDS, Member of the Royal College of Surgeons, London.

To Dr. BATTY.

Dear Sir,

I Read the following Extract in the third Number of the Décade Philoſophique, An. x. As it appears to me highly intereſting, and as my engagements prevent me from repeating the experiment, I ſend you a tranſlation of it, which is entirely at your diſpoſal. I am, &c.

F. N. VANDIER.

Great Mary le Bone Street, Nov. 13, 1801.

Extract

Extract of a letter to Professor Volta, on Animal Electricity, by J. Tourdes, Professor in the School of Medicine at Strasbourg.

"Our intimacy, and the friendship of which you gave me so many proofs during my stay in Italy, prompt me to communicate to you the result of an experiment which seems to me to resolve one of the most controverted problems of Physiology; I mean the *vitality of the blood.* That liquid, deprived of its aqueous humour, lymph, &c. and reduced merely to the fibrous part, was subjected to your Galvanic or rather electric apparatus, (for your last researches prove in an incontrovertible manner the identity of the Galvanic and electric fluids.)* The temperature was about 30° of Reaumur. It presented oscillations, a fluttering and palpitation, analogous to those which are experienced by the fleshy parts of recently slaughtered animals, *a double motion of contraction and dilatation*, very easily discernible by means of a magnifying glass, and which is a characteristic property of the vital principle, (or vis vitæ) peculiar to the muscles, cellular texture, &c. &c."

To the Editors of the Medical and Physical Journal.

Gentlemen,

When I wrote the observations on the Analysis of the Kilburn Waters, which have been inserted in the Number of your Journal for August, I was fully convinced of their accuracy, and I was actuated solely by a desire of pointing out what I thought erroneous, and to caution your younger readers against the conclusions drawn by the author of the analysis. That gentleman having, in answer to my animadversions, quoted authorities in opposition to that of M. Fourcroy, I find myself obliged to trouble you again with some further remarks, in order that the candid and impartial public may decide upon a question more important perhaps than it appears at first sight. I trust that my reasons will be found sufficient to remove all doubt; I therefore submit them to your readers, assuring you at the same time that it will be always my wish, "*Et refellere sine pertinaciâ, et refelli sine iracundiâ,*" truth being dearer to me than any opinion.

I had

---

* This identity has, I understand, been proved in London, in a very ingenious manner, by Dr. Wollaston, Mr. Carlisle, &c.

I had objected to the term "*Strontian lime*," as being in chemical language a barbarifm; the author replies, that he will not apologize for it, having the authorities of Meffrs. Kirwan, Babington, and Aikin. Thefe are indeed very refpectable authorities, but I hope I am not too prefumptuous in faying that no authority can avail againft philofophical rules; and that, if the new nomenclature is adopted at all, it fhould be employed as it exifts originally, or as corrected to the prefent time. Some would, perhaps, add, that Mr. Kirwan cannot be confidered as an authority in point of nomenclature, fince he has one of his own which the chemical world has not adopted; or fhall we fay with him, fuliginated, inftead of ammoniacal; Sylvian, inftead of muriate of potafh; Glauber and Epfom, inftead of fulphates of foda and of magnefia; mephito nitrous acid, inftead of nitric acid impregnated with nitrous gas, &c.?

But enough of thefe remarks about words, let us examine the moft important parts. It feems to me that the queftion to be decided is fimply this: "*Do muriate of lime and sulphates of soda and of magnesia exist together in the Kilburn Waters, and is it possible that they may co-exist?*" The author of the analyfis fays he has found them, and has brought authorities to fupport his affertion. You will recollect, gentlemen, that I related two fimple experiments to prove the contrary, and quoted "one of the moft fkilful and experienced hydro-analyfts of modern times," my illuftrious countryman, Profeffor Fourcroy.* I muft confefs that I have fince found no reafon to alter my opinion, however refpectable may be *some* of the authorities alluded to. For,

Firft, It may be obferved that Mr. Schmeiffer in particular cannot be quoted as proving any thing, it having been proved by the author that Mr. Schmeiffer was certainly wrong in one point of his analyfis, viz. in his afferting that the water contains fulphurated hydrogen gas.

Secondly, It may alfo be remarked that fome of the analyfes brought forwards were made at a time when analytical chemiftry was not fo far advanced as it is now.

Thirdly, If we appeal to Mr. Kirwan's book on the Analyfis of Waters, we find, that although that learned philofopher cautions us, by the expreffions quoted in the anfwer to my obfervations, againft concluding too haftily on the prefence or abfence of any falts in conjunction with others apparently incompatible, yet he every where tells us that muriate of lime cannot exift with alcaline fulphates, or with fulphate of magnefia.

* Thefe are Mr. Kirwan's expreffions, p. 159, Analyfis of Waters.

ſia. "This ſalt (muriate of lime) is incompatible with any notable proportion of aerated alcalis or aerated magneſia, and *with all sulphats, except selenite*;" page 123. "If it (ſulphate of magneſia) be accompanied with ſelenite and Glauber (ſulphates of lime and of magneſia) neither then can any other earthy nitrate or muriate exiſt in the water, &c." page 216.

"The exiſtence of ſulphate of magneſia demonſtrated in the water, although in very ſmall quantity, proves that the muriatic acid cannot be united to lime, for the calcareous muriate cannot exiſt with ſulphate of magneſia, without decompoſing it and being in its turn decompoſed, ſo that theſe two ſalts are ſuddenly changed into ſulphate of lime and muriate of magneſia." Fourcroy, Analyſe des Eaux d'Enghien, p. 217.

M. Bertholet, in his "Recherches ſur les Lois de l'Affinité," obſerves alſo, that muriate of lime changes its baſis with all ſoluble ſulphates.

Fourthly, I would aſk how it is poſſible to know that theſe ſalts, ſaid to be incompatible by all authors, did co-exiſt in the Kilburn or other waters? And, how far it is juſtifiable to contradict the general law of chemical attraction on mere appearances? For their co-exiſtence was concluded merely, I believe, on the obſervation that when they are in a very ſmall quantity in a large proportion of water, there is no apparent decompoſition. But it may be obſerved, that chemical bodies do not act upon one another, unleſs they are brought into contact; and that, in the circumſtances alluded to, the ſmall quantities are loſt, if I may ſo ſay, in an immenſe bulk of fluid, and cannot therefore fairly approach one another. This is well known to all Analyſts, who find themſelves frequently obliged to evaporate part of the ſolvent; but they do not hence conclude, that the bodies in ſolution do not act upon one another.

There are but two ways of aſcertaining the preſence of theſe incompatible, yet (as is ſuppoſed) co-exiſting ſalts. The *firſt method* is by teſts or reagents. But Mr. Kirwan on the Analyſis of Waters, p. 159; Fourcroy, Analyſe des Eaux d'Enghien, p. 69; Gioanetti, Analyſe des Eaux de St. Vincents, page 31, and many other writers, agree that no certain concluſion can be drawn from reagents, and that they cannot give any information of the combinations. The *second method* is by evaporation; but here again Mr. Kirwan obſerves very juſtly, "That when, by cloſe evaporation, they (the incompatible ſalts) are brought together in an inconſiderable ſpace, they decompoſe each other, &c." page 164.

Theſe reaſonings were fully ſufficient to perſuade me; but I went ſtill further: I examined the Kilburn Waters, and I ſhall give ſuch of the experiments as relate to the preſent queſtion, and

and omit the others, ſince my intention is not to give the whole analyſis.

1. A gallon was evaporated till it was reduced to a half, and the carbonates were collected; they were found to weigh about 36 grains.

2. The liquor was then evaporated to dryneſs, and left expoſed to atmoſpheric air for twenty-four hours; no ſenſible deliqueſcence was obſerved, and the reſiduum, in that ſtate, weighed 501 grains.

3. That reſiduum was put with very dry alcohol, and filtered, twenty-four hours after it had been frequently ſhaken. The liquor was carefully diſtilled to dryneſs, and the reſiduum, diſſolved in diſtilled water, was perfectly tranſparent.

4. I then poured into it ſome ſulphuric acid, but not enough to rediſſolve the precipitate if there had been any; no precipitate was produced. In order to aſcertain whether the liquor was able to ſhow the lime, if there had been any, a ſmall drop of a ſolution of muriate of lime was added to it, and then a precipitate of ſulphate of lime was produced. This caution is always neceſſary before we can draw any concluſion.

5. The nitrate of ſilver demonſtrated the preſence of muriatic acid in the ſolution (Exp. 3.), and magneſia was precipitated by ſub-carbonate of pot-aſh.

Theſe experiments were repeated many times, and always with the ſame reſults.

As it might have been objected that I had not followed exactly the ſame method as the gentleman I had criticiſed, I evaporated another gallon to dryneſs, leaving the carbonates with the reſiduum, which, kept for five or ſix days on a ſand-bath, weighed 446 grains. It was then put with very dry alcohol, and after ſtanding forty-eight hours, it was filtered, diſtilled to dryneſs, and detached from the veſſel by diſtilled water. I then put it in a platina crucible, and poured on it ſome ſulphuric acid, which I expoſed for ſome time to a red heat; cold diſtilled water was added in a ſmall quantity, and no precipitate of any kind was perceived, but the ſolution was perfectly tranſparent, and was ſulphate of magneſia.

From the foregoing experiments, it ſeemed fair to conclude that muriate of lime and ſulphates of magneſia and of ſoda do not co-exiſt in the Kilburn Waters. I did not, however, reſt ſatisfied with theſe experiments, but thought it incumbent upon me to make ſuch others as would confirm the concluſions which I have drawn. A very natural method preſented itſelf; I mean the ſyntheſis or recompoſition of the waters. I am well aware that our inability to reproduce a compound which has been anaanalyſed, does not always prove that the analyſis is erroneous.

We

We cannot reproduce a ruby or a ſaphire; but it is otherwiſe with reſpect to mineral waters. If the analyſis be correct, we may, by combining the different ingredients, form a compound exactly ſimilar, at leaſt as to the various ſalts which exiſt in it.

I therefore took a gallon of diſtilled water, and boiled with it forty-two grains of ſulphate of lime, till it was diſſolved. When cold, the muriates and ſulphates were added, then the carbonates, all in the proportions ſtated in Mr. Bliſs's Analyſis; carbonic acid gas was paſſed through the liquor, till the carbonates were diſſolved; the liquor was not inferior to that of the natural waters in point of limpidity, and the taſte appeared to be the ſame. This artificial was then analyſed as the natural waters had been, and the 14,75 grains of muriate of lime, which had been put into it, could not be found by any method I could deviſe. It had therefore been decompoſed, as I indeed expected; and this ſeems to me a ſatisfactory proof that muriate of lime and ſulphates of alcalies and magneſia cannot co-exiſt.

It muſt be obſerved, that the ſulphuric acid uſed in theſe experiments was diſtilled for that purpoſe, and that no other can be depended on, as it is generally very impure, and contains often, beſides other matters, ſulphates of lead, of potaſh, of alumina, &c. I had alſo occaſion, in the courſe of my experiments, to obſerve that the whole of the muriate of magneſia does not appear to be taken up by alcohol, when this laſt is very dry, and when the ſalt is enveloped, as it were, by other ſalts, alſo very dry.

It appears alſo, that very dry alcohol takes up ſome ſulphate, for the muriate of barytes demonſtrated a ſlight trace of ſulphuric acid in one of the ſolutions which I examined, ſo true is it that there is nothing abſolute.

I am, your's, &c.

F. N. VANDIER.

Great Mary le Bone Street, Nov. 11, 1801.

To Dr. BATTY.

Dear Sir,

As the ſubject of the encloſed paper, which has been read at the Royal Society, comes within the province of your Medical and Phyſical Journal, I beg leave to addreſs it to you, in order that this method of preparing, at a cheaper rate than that at which it is uſually ſold, ſo valuable a medicine as James's Powder, may be as public as poſſible. I am, &c.

RICHARD CHENEVIX.

Nov. 12, 1801.

Observations and Experiments upon Dr. James's Powder; *with a Method of preparing, in the humid Way, a similar Substance.* By R. Chenevix, Esq. F.R.S. M.R.I.A.

After the observations and experiments made by Dr. Pearson, to investigate the nature of Dr. James's Powder, and presented by him to this Society, very little remained to be effected or desired, towards a further knowledge of the subject. But those very experiments served to suggest, that the mode of preparation was far from being the best that the present improved state of chemical knowledge might afford; and that, in all probability, a less defective composition might result from a process more conformable to some improvements, which of late have been advantageously applied to pharmaceutic chemistry.

It may be laid down as a general principle, that, in delicate experiments, whether analytical or synthetical, fire (that potent and once believed to be universal agent) is too precarious in its means, and too uncertain in its application, to be employed with full and constant success. And, if it is still recurred to, the advantage of promptness, and a remnant of ancient custom, are the principal reasons. But, where other methods can be devised to effect the same combinations, (and the humid way offers many,) every person conversant in chemical knowledge will allow the benefit of adopting them. The recent improvement in the mode of preparing calomel, is a striking example of such salutary corrections being successfully introduced.

A few observations upon the formula according to which Dr. James's Powder, or the *Pulvis Antimonialis*, is prepared, and upon some properties of antimony, will place this assertion in a more prominent point of view.

In order to prepare this powder, we are told to take equal weights of bone or hartshorn shavings and crude antimony, and calcine them together, at a high temperature: in other words, to take phosphate of lime, which already contains a great excess of lime, and add to it an oxide of antimony. In this process, it has been supposed, that the phosphoric acid of the bone or hartshorn will saturate, not only the lime with which it was originally combined, but, in addition to it, a new portion of metallic oxide, and a new portion of lime. For, what little sulphuric acid might, during the process, have been formed by the combustion of the sulphur of the crude antimony, is dissipated, at a much lower temperature than that to which the powder is exposed.

Every oxide of antimony with which we are acquainted, is volatile at a high degree of heat; it would therefore be hazardous to assert, that it is possible to preserve always the same proportion

proportion of antimony, whatever care may be employed in directing the operation; and a diſſimilarity in the chemical reſult muſt neceſſarily be attended with uncertainty in the medical application.

To this property may be added another, no leſs conducive to error. That portion of oxide of antimony which is not volatilized, becomes, in a great meaſure, inſoluble in all the acids. What the effect of the gaſtric juice may be, upon a ſubſtance which reſiſts the action even of nitro-muriatic acid, it is not my purpoſe to determine. It is ſufficient for me to ſay, that, as the quantity of inſoluble matter, in a given quantity of Dr. James's Powder, prepared at different times, may vary, the effect of any doſe alſo may differ, according to the proportions of ſoluble and inſoluble matter.

I look upon it as a fortunate circumſtance, that thoſe experiments and obſervations which I mentioned in the beginning of this Paper, exiſted as a ſtandard to which I might refer my own attempts, and by which I might eſtimate their validity. Dr. Pearson has proved, (as by my own experiments I have found,) that in Dr. James's Powder about 28 per cent. reſiſted the action of every acid. In examining ſome of the *Pulvis Antimonialis* of the London Pharmaçopeia, I found the average quantity of inſoluble matter to be about 44 per cent. This proportion, however, was liable to conſiderable variation.*

The powder here treated of is denominated, by Dr. Pearson, a triple ſalt, or a real ternary combination of a double baſis, (lime and antimony,) with phoſphoric acid. What I have mentioned, with regard to the quantity of acid contained in bone or hartſhorn, as being too ſmall to ſaturate a new portion of theſe baſes, may throw ſome doubts upon the poſſibility of any ſuch combination in the preſent caſe. But I have made ſome more direct experiments, which tend to prove, that no ſuch combination does exiſt.

I took ſome white oxide of antimony, (formerly called Algaroth Powder,) precipitated by water from muriate of antimony, and heated it for a long time with phoſphoric acid. I decanted the liquor, and waſhed the powder that remained. No antimony could be found in the liquor; nor could any traces of phoſphoric acid be detected in the reſiduary oxide of antimony. I then took a ſolution of muriate of antimony, and divided it into two equal

* I find, from the information of ſeveral medical gentlemen, that the *Pulvis Antimonialis* is generally conſidered as ſtronger than Dr. James's Powder. This ſeems rather extraordinary, when we conſider that the quantity of inſoluble matter is greater in the former than in the latter; and would almoſt lead us to ſuſpect it, to be the active part of the medicine.

parts: Into one, I poured diſtilled water; and, into the other, a ſolution of phoſphate of ſoda. In each liquor, a copious precipitate was formed; which precipitates, after being well waſhed, were dried. The weight of both was the ſame; whereas it is evident that, had any phoſphoric acid been combined with the oxide, there would have been an augmentation of weight in that which was precipitated by the ſolution of phoſphate of ſoda. This precipitate likewiſe, upon examination, gave no traces of phoſphoric acid. From theſe experiments it appears, that there exiſts no combination, which can be denominated a phoſphate of antimony.

To attempt an explanation of the real nature of the powder here ſpoken of, I had recourſe to ſome experiments of Mons. BERTHOLLET. By detonating ſulphuret of antimony and nitrate of potaſh in a crucible, he obtained a maſs, which he reduced to powder, and waſhed. The liquor gave, upon evaporation, a cryſtallized ſalt, which M. BERTHOLLET terms an *antimoniate of potaſh.* I never could ſucceed in any attempt to form a ſimilar combination between the above white oxide of antimony and potaſh, owing, I believe, to the ſmall quantity of oxygen contained therein, compared with that which is combined with the oxide obtained by detonation. I cannot therefore ſay, that the powder in queſtion is, in any degree, what M. BERTHOLLET would call an *antimoniate of lime.*

But be the ſtate, whether of mixture or of combination, what it may, my purpoſe is to endeavour to produce a ſubſtance, which, from its more certain mode of preparation, may be more equal and conſtant in its effects.

Diſſolve, together or ſeparately, in the leaſt poſſible portion of muriatic acid, equal parts of the forementioned white oxide of antimony and of phoſphate of lime.* Pour this ſolution gradually into diſtilled water, previouſly alkalizated by a ſufficient quantity of ammonia. A white and abundant precipitate will take place, which, well waſhed and dried, is the ſubſtitute I propoſe for Dr. JAMES's Powder.

* In order to procure the phoſphate of lime, I diſſolved in muriatic acid a quantity of calcined bone, and precipitated by ammonia in its ſtate of greateſt cauſticity. By this means, the exceſs of muriatic acid, which held in ſolution the phoſphate of lime, is ſaturated, and the phoſphate is precipitated; but no muriate of lime is decompoſed, if the ammonia is quite free from carbonic acid. This is the moſt direct method of obtaining phoſphate of lime pure. This ſalt is not decompoſed, as ſome have aſſerted, by muriatic acid, but merely diſſolved by it. I have been induced to ſtate fully theſe particulars, becauſe, from the beneficial effects of this ſalt in the treatment of rachitis, as propoſed by M. BONHOMME, (*Annales de Chimie*, Vol. XVIII. p. 113,) it may become of general uſe. The oxide of antimony I obtained by precipitating, by water, the common butter of antimony of the ſhops.

The

The theory of this precipitation is so clear and simple, that it does not require any comment. It may be useful, however, to those who wish to make this preparation, to remark, that it is absolutely necessary that the solution of phosphate of lime and of oxide of antimony, in muriatic acid, should, after being well mixed, be poured *into the alkaline liquor*, in order to obtain a precipitate homogeneous throughout the operation. For, should the alkaline liquor be poured *into the acid solution*, the water of the former would act upon the entire mass of oxide of antimony, while the alkali would precipitate the phosphate of lime only as it saturated the acid which held that salt in solution: thus, the precipitate would contain more antimony in the beginning; and, towards the end, the phosphate of lime would be predominant. For the same reason too, a pure alkali is preferable to its carbonate; for the carbonic acid disengaged, would retain in solution a portion of phosphate of lime.

Whether this composition be a chemical combination or a mixture, I will not take upon me to determine; but, for the reasons above mentioned, in speaking of Dr. JAMES's Powder, I believe it to be merely a very intimate mixture. At all events, it must be more homogeneous than any that can be prepared in the dry way. It is entirely soluble in every acid that can dissolve either phosphate of lime or oxide of antimony separately; and to have it constantly and uniformly the same, no further address in preparing it is required, than to avoid the errors I have mentioned.

As, after some medical trials of the powder, it was suggested to me, that it might be more advantageous to render it somewhat stronger, I prepared another portion, by taking two parts of oxide of antimony and but one of phosphate of lime, and precipitating as above described. The medicinal power was then considerably increased.

Dr. JAMES's Powder is a medicine which has been so long in use, and is so deservedly ranked among the most valuable we possess, that every attempt to render the process for preparing it more simple and more certain, must be allowed to be of some importance. But, whatever reason there was to think, by arguing upon its chemical properties, that I had really succeeded in improving its medicinal virtues, it still remained to be proved, by actual experiment, that the hoped-for success was not merely conjectural. To ascertain this, I gave some of my powder to Dr. CRICHTON, Dr. BABINGTON, and Mr. ABERNETHY; gentlemen whose extensive practice and acknowledged skill sufficiently enabled them to judge of its medical properties. They all concur in opinion, that, in its general effects, it agrees with Dr. JAMES's Powder and the *Pulvis Antimonialis*; but, that it

is

is more mild, and consequently may be given in larger quantities, seldom producing nausea or vomiting, in doses of less than eight or ten grains.

Continuation of a Memoir on the morbific Elongation of the Tongue out of the Mouth. By PIERRE LASSUS.

WE read in a Treatise of Surgery, published in 1782, by Le Blanc, a single observation so much the more useful, that by considering it in its proper point of view, it will serve to prove the solidity of the principles stated in this Memoir. — The daughter of a basket-maker of Orleans, was attacked at the age of three years with convulsions, which caused the tongue to protrude from the mouth, and prevented the patient from drawing it in again. She bore this hideous inconvenience for fourteen years. In the month of April 1772, Le Blanc was desired to see her; she was then seventeen years old. The tongue was out of the mouth the length of three fingers breadth, and was more than an inch thick; it was covered with seven or eight small ulcers, and under were three or four ulcerated protuberances. The girl was disgusting to all who saw her; the incisive teeth of the lower jaw were turned outwards, and covered with tartar. The author of this observation thought, that by enclosing the tongue in a small bag of fine cloth, returning it into the mouth, and keeping it there some time with a bridle, it would diminish in size; that the muscles which serve to draw it towards the bottom of the mouth, having been too much extended for 14 years, would, in the end, regain their spring; and that the saliva, which continually softened the ulcers, would alone suffice to clean and heal them. According to this idea he enclosed the tongue in a small bag of cloth, to the angles of which he attached a bridle made with brass wire, which was to be applied under the chin, as a point of solid support. Ribbons attached to the same bridle were conducted from before, backwards, to be crossed on the nape, and then be brought forwards to be tied on the forehead. This apparatus was taken off, evening and morning, to wash the bag, and rince the patient's mouth with wine. In the space of four days the tongue diminished considerably in size, resumed its place, and the ulcers cleansed. From that time the bridle was unnecessary, and the tongue came no more out of the mouth; but as the incisive teeth of the lower jaw, which were thrown from their alveoli, were inserted in the inferior lip, and prevented its being applied to

to the ſuperior, eſpecially when the girl wiſhed to ſhut her mouth, it was neceſſary to extract them; then the patient was for ever freed of any inconvenience which had rendered her incognizable.* The advice of encloſing the tongue in a kind of fine linen bag attached to a braſs wire, which draws in the manner of a bridle under the chin, has been given as a proper means to favour the cure of tranſverſe wounds of this organ.† Le Blanc thought that the ſame proceſs might be uſefully employed in the cure of the baſket-maker's daughter of Orleans.

It is, in fact, to the retropulſion performed by the action of this bandage upon the extremity of the tongue, that this girl owed her cure; it does honour to the underſtanding and ſagacity of the profeſſional man who directed it. But in a child the ſame means would not be ſo efficacious, the tongue having neither the ſame ſize nor elongation; and not being able to furniſh a point of ſupport ſufficiently ſolid, the commiſſure of the lips would be an obſtacle to the action of this bandage, which in acting too feebly from before backwards, could not force back the tongue and keep it in the mouth. Beſides, if we pay attention to the indocility of an infant whom this bridle inconveniences, and which neceſſarily keeps the mouth partly open, it will be ſeen that it cannot always fulfil an object to which it was not, in the firſt place, deſtined by its author. It reſults from the moſt elementary notions of anatomy, that deglutition cannot be performed, or at leaſt but very badly, when the mouth is open; it is neceſſary to execute that natural action, that the jaws ſhould be brought together; then the os hyoides, which is a ſupport to the tongue, riſes with the ſuperior part of the larynx, whilſt the baſe of the tongue carried backwards, acts againſt the portion of aliment which is directed towards the pharynx; it is thus that the elevating muſcles of the jaw eſſentially contribute to deglutition. It is then true, that to cure in new-born infants the diſeaſe in queſtion, the child muſt not only be prevented from ſucking, but the jaws muſt alſo be kept together, to direct as much as poſſible the movements of the tongue during deglutition; in a ſenſe contrary to that which it has hitherto maintained, and which it would continue to preſerve by ſucking the nurſe's breaſt. I ſhall finiſh this Memoir by the recital of a fact, the more important to be known, as it will prove with what facility this diſeaſe may be cured when it has even made the moſt conſiderable advances.

There lives in Paris, in a houſe for females, called la Salpêtrierè, a woman forty years old, born with the tongue elongated,

---

* Precis d'Operations de Chirurgie, par Le Blanc, p. 17.

† Memoires de l'Academie de Chirurgie, Tom. III. p. 418.

ted from the mouth. She bore this inconvenience for thirty years, ſpeaking but with difficulty, and not even able to pronounce ſeveral ſyllables; the teeth of the lower jaw were thrown outwards by degrees, the lip reverſed; and the ſaliva, no longer retained in the mouth, fell continually upon the chin and breaſt. The impreſſion of heat or cold on the tongue was very painful, and this organ was commonly redder, and more tumefied during winter than ſummer. When this woman was thirty years old, ſhe conſulted the late Louis, Secretary of the Academy of Surgery, who declared to her at firſt, that there was no hope of cure; but a few days after he ſaw the patient again, and adviſed her, after having read an obſervation to be found in Galen, to encloſe the tongue in cloths immerſed in the juice of lettuce. In fact, we read in the works of the Phyſician of Pergamus,* that an old man who had the tongue ſwollen by a catarrhal or pituitous affection, was cured by taking a purgative, and by holding in his mouth the acrid and irritating juice of the wild lettuce, (Thridacene) a plant which Galen, as well as Theophraſtus and Dioſcorides carefully diſtinguiſh from the cultivated lettuce, which they called Thridax. The woman of the Salpêtrière followed the advice which had been given her; ſhe wetted her tongue conſtantly, and for ſix months entirely, with the juice of the cultivated lettuce. Galen would probably have recommended that of the wild, as a repercuſſive remedy by its roughneſs. Be that as it may, the tongue, which was dried up, ſoftened again, and became more humid. The continued uſe of this inſipid remedy, applied cold for a great length of time, and conſtantly renewed, inſenſibly performed the diminution of ſize in this organ. The woman is now perfectly cured, but ſtill experiences a difficulty in ſpeaking, altho' the tongue has been completely retained in the mouth for ſeven or eight years. The ſkin of the chin, which for thirty years was covered by the tongue, is alſo a little redder and thicker than in its natural ſtate.

It reſults from all the Obſervations which I have related in this Memoir, that the elongation of the tongue out of the mouth is a chronic diſeaſe, which differs eſſentially from every kind of inflammatory tumor of which this organ is ſuſceptible from very various cauſes. I have already ſaid, that it is not eſſential to the diſeaſe of which I ſpeak, that the tongue ſhould be very much tumefied; that accident is manifeſted but conſecutively;

* Methodus Medendi, Lib. XIV. cap. 8. De Differentiis Morborum, cap. 9.

cutively; and it is not becaufe this organ is primitively more voluminous, or longer than it ought to be, that it becomes difplaced, but from a caufe which is not always the fame, as we have feen in the preceding obfervations: Yet, when this accident does take place, when the tumefaction is fuch that it is an obftacle to the reduction of the difeafed part, it does no lefs prefent a curative indication, which it is ufeful not to lofe fight of. It may be conceived, that under different circumftances, according as the difeafe is recent or of long ftanding, the tongue more or lefs tumefied, or dried up by its long expofure to the air, lotions or gargarifms fimply emollient, or a little ftimulant, according to the variable ftate of the affected part may be ufefully employed. By a like procefs, Scultel* cured in a few days, a man who in confequence of the inconfiderate ufe of mercury by friction, had for four months the tongue very volumnious, and hanging out of the mouth the length of four fingers breadth. By ftimulating it with an irritating powder compofed of pepper, ginger, muftard, and falt, it foon became more moveable, and lefs hard. It could be replaced, but it immediately came out of its natural place again. By making fcarifications on its inferior furface, it detumefied fo as to be for ever after retained in the mouth. It is thus that the application of leeches, which produced at the fame time a depletion and irritation on the tumefied tongue, appeared to me to be fuitable in the cafe where I employed it: But when in a new-born child the point of the tongue, not fwollen, protrudes but a few lines out of the mouth, when the difeafe as yet fhews itfelf under the appearance of a flight affection, which draws but little attention from the parents, this vicious difpofition may be efficacioufly remedied by exciting on the organ of fpeech a flight irritation, as we remedy the elongation of the uvula by ftimulating it with powdered alum or pepper. This firft refource, which it may be ufeful to repeat, fhould not occafion the neglect of applying a fling to confine the jaws together, to oppofe the exit of the tongue, the turning of the os hyoides forwards, and the ftretching of the mufcles, which ferve to fupport thefe parts in their natural fituation. In fine, it is important not to take for Cancer the difeafe in queftion, when it is inveterate; or from a falfe view, to cut off the protuberant extremity of the organ of fpeech.

G. BELLAMY.

---

* Obf. 17, Append. Obf.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IF the following Cases of the succesful treatment of the suppression of urine, by the application of blisters, &c. above the pubis, meet with your approbation, they are much at your service, and the insertion of them will confer an honour upon,

Your's, &c.

Hull, Nov. 9, 1801. WALTER SCOTT, M. D.

A soldier, of the Northumberland Regiment of Militia, having contracted a gonorrhœa, did not wish to be put upon the sick report, but very imprudently made use of an astringent injection; the consequence of which was, that he was seized with a suppression of urine, attended with most excruciating pain; he was attacked when on duty. It unfortunately happened that I was attending the regiment at exercise, which was some distance from the town; the soldier wishing for immediate relief, made application to a surgeon, a very intelligent young gentleman, who, with the best intention in the world, attempted to introduce the catheter, but in this he was foiled, at least no water was drawn off.

The soldier was taken to the hospital, in the most excruciating pain you can possibly conceive; I immediately ordered a clyster to be administered, and two grains of pure opium to be given by the mouth; blood-letting, fomentations, warm bath, clysters, laxatives, diuretics, opiates, &c. &c. (cold water also was dashed upon him) were persevered in for a considerable time, viz. for forty-eight hours, without the least relief; clysters now could not be administered, from the vast pressure made upon the rectum by the distension of the vesica urinaria. The patient having received no relief, I ordered a large blister to be applied above the pubis, which relieved him from the most painful distressing situation I ever met with.

It was my intention, after the inflammation had been removed, to have again attempted the introduction of the catheter, and if I had not succeeded, rather than the poor soldier should not have been relieved, I was determined to have punctured the bladder.

I was consulted, when I was at Ipswich, by my ingenious friend, Mr. Freer, surgeon of the Leicester Militia, in a case of suppression of urine; the methods generally made use of had been

been put in practice, but without success. I recommended the immediate application of a blister above the pubis; Mr. Freer was perfectly agreeable; but, from the idea I had formed of the manner in which the blister acted, Mr. Freer, instead of applying a blister, ordered an embrocation to the part of aq. ammo.; it answered the intention, the soldier in a short time was relieved.

Since I came to Hull I have had under my care two cases of suppression of urine, which I removed by the following application: aq. ammo. ol. terebinth. aa. ℥j. M.

I am of opinion, that in cases of suppression of urine, from spasm, or in cystitis, that blisters will be found of very considerable utility; at the same time, clysters, blood-letting, opiates, &c. &c. are not to be omitted.

In those cases I am against the hasty introduction of the catheter, until the inflammatory symptoms are removed. I have in several cases of nephritis, applied blisters to the region of the kidnies, with considerable relief and advantage.

On the Urinary Stones and Gravel in Men.
By Cit. Fourcroy.

It is only since the time of *Scheele* that we have become acquainted with the nature of urinary calculi, this subject having been quite in the dark before that great chemist discovered, in the year 1776, a peculiar acid (the lithic acid) in them, and at the same time found them to contain no lime, a circumstance which was soon after confirmed by the experiments of *Bergmann*. From this period, the chemists bestowed a particular attention upon the examination of urinary concrements, as appears from the writings of *Dobson*, *Percival*, *Falconer*, *Achard*, *Hartenkeit*, *Tychsen*, *Link*, *Titius*, *Walther*, *Gartner*, *Brugnatelli*, *Pearson*, and several others, some of whom confirmed the discovery of *Scheele*, while others contradicted, and others enlarged it.

But we are particularly indebted to *Cit. Fourcroy* and *Vauquelin*, who since 1786 had turned their attention on this subject, for having made many experiments, by which great light is thrown on the nature of urinary concrements. We have thought it proper to communicate to our readers in an extract, the interesting results of their chemical inquiries, principally on account of the influence they have on the treatment of urinary calculi.

Section I. *On the seat and physical properties of Urinary Calculi.*—Calculi are found in different parts of the urinary system, in the pelvis renalis, in the ureters, in the bladder and urethra; but as they, for the most part, originate in the pelvis renalis, the calculi renales make the nucleus of the greatest number of urinary stones. The *calculi renales* differ greatly with respect to their external qualities; for the most part, however, they consist of small, concrete, roundish, smooth, glossy, and crystalline bodies, of a red-yellow colour, like that of wood, and so hard as to admit polishing. On account of their minuteness, they easily pass through the urinary passages in form of gravel, which being sometimes of a rough surface, cause several complaints on their passage. But in some instances they are of too great a size to be able to penetrate through the ureters; in which case they increase in the kidneys, to the manifest injury of them. Calculi renales of this kind are generally of a brown, dark red, or black colour, and surrounded with several strata of coagulated blood and pus; they have also been observed of a yellow, reddish, and lighter colour; and some consisting of an homogenous stony mass; but white or grey calculi renales are very rarely to be met with. Amongst the great number that were examined by me, I have only found one or two of a grey or blackish colour, and a composition similar to those which generally bear the name of mulberry-like stones.

The stones in the ureters are calculi renales, which on passing into the ureters are prevented by their size from descending into the bladder, and frequently increase very much; they, however, rarely occur, but still rarer are the internal stony coverings of the ureters, which entirely obstruct the passage of urine; their colour is white, and they consist of phosphat of lime.

The stones in the bladder are the most frequent urinary concrements that have been principally examined; they draw their first origin from the kidneys, whence they descend into the bladder, where they increase, or they immediately originate and increase in the bladder; or they arise from a foreign body that by chance has got into the bladder, which not unfrequently happens, particularly in the female sex. Concrements of this kind differ greatly in their respective physical qualities and external form, which, however, is generally spherical, oval, or compressed on both sides; and sometimes, when there are several stones in the bladder, they have a polyedrous or cubical form; their extremities are frequently pointed or roundish, but they are very seldom found cylindrical, and more rarely with cylinders at their ends.

There is a great variety in the size of the calculi, and likewise

wiſe in their colour, which is materially different according to their reſpective nature and compoſition. They occur, 1. of a yellowiſh colour, like wood, approaching nearly to red or brown; ſuch ſtones conſiſt of lithic acid. 2. Grey, or more or leſs white; theſe ſtones always contain phoſphats of earths. 3. Dark grey or blackiſh; ſtones of this colour have oxalats of earths. Many ſtones ſhow brown or grey ſpots on a yellow or white ground, generally raiſed on the ſurface, and conſiſting of oxalat of lime, which is encloſed in lithic acid when the ground colour of the ſtone is of a wood colour, or in phoſphat of lime when it is white. Theſe ſpots are, in general, only to be obſerved in the middle of the ſtone, or at one of its extremities. All that I have here ſtated is the reſult of obſervations on more than 600 calculi; and different other colours that are ſaid to have been obſerved, either ariſe from heterogeneous ſubſtances, or are merely variations of the above colours. Their ſurface is ſmooth and poliſhed in ſome, in others only ſmooth, and in others uneven, and covered with rough or ſmooth corpuſcles, which are always of a yellow colour; in ſome the ſurface is partly ſmooth, and partly rough. The white ones are frequently even and ſmooth, half tranſparent, and covered with ſhining cryſtals, that generally indicate phoſphat of ammonia with talc; or they are faint, and conſiſt of minute grains; or rough, in which caſe they conſiſt of phoſphat of lime. The brown and dark grey ſtones are, from their ſimilarity to mulberries, called mulberry-ſtones, and being frequently very rugged, they cauſe the moſt pain of all.

On examining the ſpecific weight of urinary calculi in more than 500 ſpecimens, I found it to be in the lighteſt 1213: 1000, in the heavieſt as 1976:1000. Their ſmell is partly ſtrong, like urine or ammonia, partly inſipid, and terreous; for inſtance, the white ones, which are like ſawed ivory or raſped bone.

The internal texture of calculi is but ſeldom gueſſed from their external appearance, particularly when they exceed the ſize of a pigeon's egg. On breaking them they generally ſeparate into two or three ſtrata, more or leſs thick and even, which prove that they are formed by different precipitations at different times. In the middle a kernel is generally ſeen, of the ſame maſs as the reſt. When the place they are broken at is finely ſtreaked, and of a yellow or reddiſh colour, the lithic acid predominates; but when they are half tranſparent, luminous like ſpar, they have ammoniacal magneſia in them, and phoſphat of lime when they are brittle and friable; but when they are ſo hard as to reſiſt the inſtrument, of a ſmooth ſurface, and a ſmell like ivory, they contain ſaccharic lime. It frequently happens, that the exterior ſtratum conſiſts of white

phoſphat

phosphat of earth, while the kernel is yellow lithic acid or oxalat of lime, covered sometimes with a yellow stratum of lithic acid, in which case the kernel appears radiant; but when it consists of lithic acid, and is covered with white phosphate of earth, it is roundish, oval, and somewhat crooked. These concrements have very seldom three strata; namely, on the outside a phosphat of salt, towards the inside lithic acid, and quite within side an oxalat of lime; but still rarer these substances occur in more strata or in another order, as before mentioned. Stones of the urethra are seldom generated in the urethra itself; however, there are instances of their having been formed in the fossa navicularis by means of foreign bodies that have got into the urethra. We also very frequently observe stony concrements deposited between the glans and prepuce. All the concrements produced within side and outside of the urethra consist of phosphats of earths, which are easily precipitated from the urine. There are likewise stones in the urethra, which have come out of the bladder, having been produced there, or in the kidneys, and they generally possess the properties of stones of the kidneys.

Sect. II. *On the different constituent particles of urinary stones.* It has been mentioned above that Scheele found a peculiar acid in the urinary concrements, and likewise that phosphat of lime was discovered in them. The identity of the lithic acid, however, was much doubted by modern chemists, particularly by *Pearson*, who asserted that it was merely an oxyd, whereby he gave rise to the discoveries Mr. *Vauquelin* and myself have since made on this subject, because we were induced to repeat the experiments which we had proposed to the public, in order to examine whether the lithic acid be really an acid, or to confirm our former opinion of it. Our endeavours were fully rewarded, as we not only found the lithic acid and phosphat of lime in the different calculi, but also five other substances, viz. the lithat of ammonia, oxalat of lime, siliceous earth, phosphat of ammoniacal magnesia, and an animal matter.

1. *Of the lithic or uric acid.* The acid discovered by Mr. Scheele in the urinary concrements was stiled lithic acid; or, according to Dr. Pearson's researches, uric acid, which, after Scheele, has the following properties. It is insipid, without smell, hard, crystallizible, not soluble in cold water, and in boiling water only in several thousand times greater quantity. This solution, after having become cool, deposits the acid in form of minute yellow needles, easily soluble in the lye of fixed alkalis, out of which, however, it is precipitated by all acids, even the carbonic acid, except the sulphuric and muriatic acid, which have no effect on it. Concentrated nitric acid, on dissolving

ſolving it, obtains a red colour. On diſtilling the lithic acid it yields a ſmall quantity of ſublimed, undecompoſed uric acid, very little oil and water, cryſtallized carbonat of ammonia, carbonic acid, and a very black coal, which, however, contains neither alkali nor lime. Beſides theſe properties, it poſſeſſes ſtill others, according to our reſearches. On rubbing it with concentrated lye of kali or natron, it immediately forms a ſaponaceous, thick, and pulpy maſs, which is very ſoluble in water when ſuperſaturated with alkali, but little ſoluble when only ſaturated with it. The ſaturated combinations have little taſte, are not cryſtallizable, and when diluted with water, the muriatic acid precipitates the uric acid in form of ſmall, needle-like, ſhining, ſomewhat yellowiſh cryſtals. Ammonia receives very little of it, which combination is almoſt quite indiſſoluble. Lime water has likewiſe very little effect on it, and the carbonats of alkalis none at all. On being diſſolved in nitric acid, a part of the lithic acid is changed into oxalic acid. The red colour which appears after this combination is ſaid to prove, according to Pearſon, that ſubſtance to be merely an oxyd, but it ariſes from a peculiar animal matter. When oxygenated muriatic acid is brought in contact with lithic acid, the colour of it grows pale, it puffs up, becomes ſoft and gelatinous, and at laſt obtains the conſiſtency of a milky liquor; from which proceſs only $\frac{1}{60}$ of a white, light, animal ſubſtance remains, and a quantity of carbonic acid evolves itſelf under continual flow efferveſcence. The liquor yields muriat of ammonia, oxalat of ammonia, both in cryſtals, free muriatic and malic acid; conſequently the oxygenated muriatic acid ſeparates the uric acid into ammonia, carbonic acid, oxalic acid, and malic acid, whereby we obſerve that the oxygenated muriatic acid changes the uric acid, firſt into ammonia and malic acid, but on the addition of more acid, into oxalic acid; and when ſtill more acid is added, into water and carbonic acid. The remaining white ſubſtance is the ſame, from which the red colour originates that appears on the combination of the uric acid with nitric acid, and which imparts the cubical form to the muriat of ammonia, obtained by the evaporation of the liquor. It remains now to be ſtated what is obſerved in the diſtillation of that acid, at which it yields not only carbonat of ammonia, but alſo carbonic gas, very little oil, Pruſſic acid, partly in form of gas, partly in fluid form, a conſiderable quantity of coal that contains no ſalt, and a little water. The productions thus obtained have the ſmell of bitter almonds. The reſults of theſe inquiries manifeſtly ſhow, that the lithic acid is really an acid of its own, conſiſting of azote, carbon, hydrogen, and oxygen. This peculiar acid is an excrementitious ſubſtance, which

which is carried off by the urine, and at the forming of calculi combines itſelf with a coloured animal matter, from which alſo it probably originates by a proceſs ſtill unknown.

2. *Of the lithat of ammonia.* This ſubſtance ſeems to have been unknown before, or at leaſt not properly diſcerned from the uric acid, and though Scheele has obſerved it, he was ignorant of its particular nature. It is eaſily to be diſtinguiſhed by the ſmall even ſtrata in which it is formed, by its colour, that looks like milk coloured with coffee, and by its forming but ſmall calculi. It diſſolves in the lees of kali and natron like the lithic acid, but with the characteriſtic difference that it diſcharges ammonia, a phenomenon already obſerved by Scheele. It is more ſoluble in cold as well as warm water, than the lithic acid. It is in the ſame way affected by acids, except that a greater quantity is required for changing it. It is generally mixed with phoſphat of ammoniacal magneſia, becauſe it ſeems only to take place after a ſufficient quantity of ammoniacal magneſia has been formed, to ſaturate the phoſphat of kali and the free uric acid.

3. *Of the phoſphat of lime.* The exiſtence of this ſubſtance had hitherto been but inaccurately determined, every ſubſtance which was not lithic acid being formerly compriſed by the name of phoſphat of lime. It occurs in ſmall friable ſtrata, which break in ſcales or ſplints of a grey white colour, and are faint, opaque, without any ſmell or taſte, and cryſtallized in a luminous or ſpar-like form; inſtead of ſtrata it is frequently compoſed of friable grains, that ſlightly cohere, and has many holes and pores like a ſpongy texture. It never forms a calculus by itſelf, being in a calculus always united with an animal gelatinous matter; on account of which circumſtance it becomes black by expoſing it to a ſtrong heat, and burns to coal, exhaling the odour of burned bones; and yields water, oil, carbonat of ammonia, and a carbonaceous reſiduum. Being calcined white, it only leaves lime, and phoſphat of lime, without any water of cryſtallization. It is not ſoluble in cold water, but in boiling water a part of its gelatine diſſolves, ſpreading an animal odour. All acids, except the boracic and carbonic acid, diſſolve it, leaving on the bottom of the veſſels tranſparent ſpots of animal matter. Theſe ſolutions are all precipitated by alkalis, but without any decompoſition, the precipitation remaining phoſphat of lime. On treating the phoſphat of lime with concentrated nitric acid, a thick pulpy maſs of acid ſulphat and phoſphat of lime will be obtained, on which pure alkalis, as well as carbonat of alkalis, have no effect. We never could find acid phoſphat of lime, as Brugnatelli pretends to have obſerved.

4. *Of*

4. *Of the phosphat of ammoniacal magnesia.* It consists of scaly, half-transparent, hard and coherent strata; can be sawed without crumbling, and reduced to a fine soft and white powder. It is of a sweetish insipid taste, somewhat soluble, and crystallized in rhomboids, or thick laminas, dispersed in the cavities of other calculous substances, and it is frequently found on the surface of other concrements. It contains betwixt its strata a gelatinous substance, but less than the phosphat of lime, on which account it also blackens by being heated. Though it be but little soluble in water, yet it dissolves in such a quantity as to be capable of crystallizing by slow evaporation. Acids dissolve it more quickly than they do the phosphat of lime. Weak sulphuric acid entirely dissolves it, forming sulphat of ammoniacal magnesia. In diluted muriatic or nitric acid, it disappears more quickly than phosphat of lime. Ammonia, by which that salt is made turbid, only precipitates small particles of magnesia. The lees of fixed alkalis disengage from it ammonia, without forming with it a solution; and depriving it of the phosphoric acid, leave the magnesia behind.

5. *Of the oxalat of lime.* It is, according to our observations, only found in the mulberry-like calculi, in combination with a coloured animal matter, and consist of strata covered with pointed, roundish, rough or smooth protuberances; outside it appears of a dark or brown colour, but internally it is grey, frequently with white streaks, of a solid texture, and may be polished like ivory; it breaks in scales, or in the shape of shells; and, on being pounded or sawed, it exhales an animal odour like semen. It is the heaviest of all calculous substances, and the only one which yields one-third of lime by calcination. It dissolves with difficulty in acids, and is precipitated unaltered by alkalis from nitric acid. The fixed alkalis decompose it when they are impregnated with carbonic acid, and when it is pulverized, and the solution heated, whereby carbonat of lime and oxalat of alkalis are obtained.

The great quantity of animal matter which constantly adheres to this oxalat of lime is very characteristical, which imparts the brown, reddish, blackish colour to the above kind of stones, and likewise the fine and solid texture. This substance may be obtained by putting small pieces of these stones into diluted nitric acid, whereby it appears of the same colour, and becomes soft and spongy. The great hardness of this kind of calculi, most probably arises from the intimate connexion of its particles, produced by the combination of the oxalat of lime with that animal matter, in the same way as lime obtains a great degree of solidity by its combination with albuminous

 matter,

matter, of which, and of a peculiar matter of urine, that animal ſubſtance ſeems to conſiſt.

6. *Of the siliceous earth.* Amongſt 600 calculi which we examined, there were only two that contained this earth; both had the texture of mulberry-like ſtones, though of a lighter colour, and by being calcined loſt one-third of their weight, without giving free lime; heated with acids they loſt nothing, but when melted with four times as much of alkali, they yielded ſiliceous earth by being treated with muriatic acid. They contained phoſphat of lime, and an animal matter ſimilar to that which is united with the oxalat of lime. They were hard, difficult to be ſawed and pulveriſed, and the powder made ſcratches in metal. On being burnt they emit an animal odour; they imparted nothing to the boiling water, and to the acids a little phoſphat of lime, which difficultly ſeparates from the ſiliceous earth. Alkalis, either pure, or combined with carbonic acid, did not affect them, merely depriving them of a part of their animal matter. Their eſſential character conſiſts in their being fuſible and vitrifiable with fixed alkalis.

7. *Of the animal matter.* All the ſix ſubſtances juſt examined, which conſtitute the urinary ſtones of the human ſpecies, are always combined with an animal matter, as appears from its being burnt to coal, from the productions it yields by diſtillation, from its ſtench on being burnt, and from the cellulous membranous floccula which remain when pieces of calculi are diſſolved in diluted acids. This animal matter has been frequently, and with good reaſon, conſidered as the baſis of all urinary concrements, like as in bones the gelatinous matter, the firſt baſis of the bones, forms an organic texture, in the interſtices of which the phoſphat of lime is depoſited. It is very remarkable, that the different conſtituent particles of urinary ſtones are combined with a diſſimilar animal matter, which is ſometimes albuminous, ſometimes gelatinous, ſometimes compoſed of both, and frequently united with the matter of urine. Thus the lithic acid, or the lithat of ammonia, contains a third of albuminous matter, combined with the matter of urine, the phoſphats of earths, albuminous matter, gelatina in form of membranes, and laminas, or tela celluloſa; the oxalat of lime, a ſpongy, yet more ſolid texture of the colour of albumen, and the ſiliceous earth, a ſimilar ſubſtance. On the whole, the animal matter ſeems to unite and join together all the acid and ſaline particles of urinary concrements.

[To be continued.]

Case

Case of Aneurism from a Puncture of the humoral Artery, cured by Pressure above the Injury, in a Letter from JOSEPH ADAMS, M. D. *&c. &c. of Madeira.*

IN the latter end of the year, 1796, a young Baronet was recommended to this island on account of pulmonary complaints, threatening consumption. On the 4th of February, 1797, he applied to me, having a return of some of the symptoms. He had been in the habit of being bled frequently, and the present symptoms indicated that remedy. In this island, when a physician orders blood-letting, the custom is to apply to a barber. As this is very repugnant to our English habits, it seemed to savor of affectation not to offer my services, especially as it appeared the wish of the family at whose house my patient resided.

Observing a cicatrix on the vena mediana basilica, I chose it for the present operation. The slight resistance made to the lancet was imputed to the callosity of the cicatrix. The blood started with considerable force; but not with greater than frequently attends venæsection in warm weather: there was no appearance of saltus. The bleeding was stopped with some difficulty, but this seemed readily accounted for by a tight flannel sleeve which we had neglected to take off or rip open. In the evening the orifice bled a-fresh, but was stopped before my arrival. On the following morning considerable extravasation of blood appeared in the arm, which was imputed to the laxity of the cellular membrane in this subject. The orifice was tender, and did not heal readily. In a few days, however, it was thought so much better as to render any further attendance unnecessary.

It ought here to be remarked, that my patient was a man of that native politeness which made him feel for the embarrassment of another. Conscious, therefore, that a subject of this kind must be unpleasant to the operator, he always endeavoured to make the least of it; and to this, among other causes, we may attribute the succeeding events.

Sir B. now returned to his usual exercises, which I encouraged as a means of promoting absorption, and still more on account of his pulmonary complaints. His health so far returned as to render my attendance unnecessary; and when we met, which in this small circle could not but be frequently, he always assured me his arm was very well. In this situation things remained till the middle of March, when, meeting at a dinner party, he requested to see me the following morning.

I then learned that the arm had never recovered its original

 size,

ſize, and that a day or two before a ſmall tumour had ariſen. It was lower in the arm than the cicatrix, and on preſſure a very obſcure pulſation might be perceived: it was firmly bound by the faſcia, and not at all diſcoloured or painful. In this ſtage it was not eaſy to diſcover whether an abſceſs was forming, from a ſmall portion of blood remaining unabſorbed and loſing its life; or whether, what was moſt to be dreaded, an artery had been wounded. In the latter caſe there was a fair preſumption, at leaſt, that the wound might be through a vein ſo as to form the varicoſe aneuriſm. At all events, if the caſe was true aneuriſm, there could now be no other remedy but the operation; and as the inciſion had been made ſix weeks, there was too much reaſon to ſuppoſe that the artery muſt be dilated beyond the orifice. If, therefore, the operation ſhould be performed higher up, according to the improved practice, no inconvenience could ariſe from deferring it for the preſent.

In this ſituation things remained till the 20th of March, when my patient made a tour of a few days into the country. On his return the tumour ſeemed increaſed; but as that was doubtful, a meaſure of the arm was taken to aſcertain its future progreſs. For a fortnight it remained ſtationary, when it ſuddenly increaſed with the ſame circumſcribed appearance, and an evident ſurrounding diffuſed extravaſation. A ſtrong preſſure was now applied on the upper part of the artery where it riſes ſuperficially. From the lax ſtate of the cellular membrane the veſſel could be ſo preſſed againſt the bone as conſiderably to leſſen its pulſation. In order to protect the circulation in the reſt of the limb, pieces of cane, armed with linen, were placed under different parts of the bandage to keep it hollow. By theſe means there was reaſon to expect that the diameter of the artery might be leſſened, and its collateral branches increaſed, which would very much leſſen the future inconveniences of an operation. Nor was I without hopes, as my patient found no inconvenience from ſtrong preſſure, that it might be gradually increaſed ſo as to obliterate the artery altogether. But either from the difficulty of keeping the bandage fixed, or becauſe the degree of preſſure was unequal to the intended object, in about ten days we had an increaſe of tumour, attended with all the former appearances, and for the firſt time with a ſlight degree of pain.

It now became neceſſary to take ſome decided ſtep, and as the high operation was in ſome reſpects new, I could not but be anxious to have the aſſiſtance of a ſurgeon who had recently left the buſy ſcenes of improvement and practice. His Majeſty's ſhip the Terpſichore, at that time appearing in our roads, I called the ſurgeon of it, and the only Britiſh phyſician in the iſland,

to

to my aſſiſtance; but had the misfortune to ſtand alone in my propoſal of either performing the operation higher up in the arm, by a ſingle ligature, or trying the effect of preſſure only.* Some other difficulties which occurred, determined me to proceed with my patient to the fleet before Cadiz, in order to procure the beſt aſſiſtance circumſtances would permit.

Finding he had felt ſo little inconvenience from preſſure on a former occaſion, I reſolved to try the uſe of the tourniquet, keeping the fillet hollow by circular pieces of wood under it in different parts. It was hardly credible how little uneaſineſs this was attended with, though the preſſure was ſo conſiderable as almoſt to ſtop all pulſation at the wriſt, and even to occaſion ſome oedema in the hand. This laſt circumſtance made me anxious for ſome apparatus that might preſs more immediately upon the artery, and leave the reſt of the limb as free as poſſible. On enquiry, the ſurgeon of the frigate recollected a ſmall inguinal truſs, which was not in uſe. This was directed to be cut ſomewhat ſhorter, and to be bent to a ſmaller angle. The bulb was fixed about the middle of the humerus, immediately over the artery, which it preſſed ſo cloſe to the bone as to prevent all pulſation in the tumour. My patient, however, felt no uneaſineſs; and though on feeling the hand it was ſenſibly colder than the other, he perceived no numbneſs nor ſenſe of cold. The truſs was fixed on about four in the afternoon, and remained ſo till between nine and ten, when it was the cuſtom of the cabin to retire to reſt. The inſtrument was ſtill left on; but as the arm reſted on the bed on one ſide, and had the preſſure of the cloths on the other, and alſo as there was no longer the roughneſs of the woolen coat to reſiſt the leather, it was not probable the apparatus ſhould long remain ſteady. About midnight I was awakened from my illuſive expectations of ſucceſs to hear my patient, for the firſt time, complain of extreme pain. I found the inſtrument ſo far from preſſing on the artery that it ſeemed ſcarcely to make any preſſure at all. The tumour was ſo perfectly ſolid that there could be no doubt the blood had coagulated. There was no pain near the part preſſed upon, nor any where higher in the limb than the aneuriſm, but immediately under and below it. If this aroſe from the preſſure of the ſolid

* The following is Mr. Home's deſcription of the operation in the ham: Tranſaction of a Society, &c. page 176.—Such is the operation in the true popliteal aneuriſm. In the caſe of the arm, if the parts are leſs complicated yet the difficulty is more than increaſed, becauſe there is no other ſack than conſolidated cellular membrane. I once ſaw a man expire under the operation for the popliteal aneuriſm, performed in the old way by Mr. Martin, in St. Thomas's Hoſpital.

folid coagulum, which the patient defcribed as hard as a brick-bat, the only remedy appeared by warm fomentations to relax the parts as much as poffible. Thefe were continued for an hour and a half before the pain entirely fubfided, though there were frequent intermiffions. After this the patient refted till day light. In the morning he was fomewhat feverifh, with occafional but flight returns of pain, chiefly in the fore-arm. The whole arm was thickened from the part to which the preffure had been applied to the wrift, and two of the fingers were infenfible. About nine he arofe, and during the reft of the day had frequent returns of what he ftiled tearing and rending pains in the fore-arm and wrift. At night an obfcure pulfation was perceived, the aneurifmal tumour confiderably increafed, and the patient complained much of its weight.

The following morning the tumour remained of the fame fize; but the fkin was florid, tranfparent, and about the centre purplifh, intermixed with parts of a paler hue. I was now more alarmed than before. The fingers remaining infenfible, and the pulfe at the wrift very obfcure, there was reafon to believe that if the artery had recovered itfelf, it was only as low as the tumour: hence it was impoffible to calculate what might be the confequence of the whole force of the heart and arteries urging the blood againft a part which feemed already giving way.

As, however, preffure had fucceeded in obliterating part of the artery, there was every thing to hope from a more regular continuance of it. The thickening of the arm rendered it difficult to fix the trufs in fuch a manner as to prefs fufficiently againft the bone. A part higher up was therefore preferred, not more than two inches from the axilla, the trufs was bent to a ftill fmaller angle, and a number of pieces of wood, of a wedge fhape, were prepared to place under the fmaller end, in order to increafe its preffure *ad libitum*. Under the thick end was placed a fmall fquare piece of wood, formed like that of the tourniquet. The fmaller end preffing on the artery, a groove was made on the broader and upper part to receive the edge of the trufs. That no time might be loft, the apparatus was applied as foon in the morning as my patient could be placed on the fofa, with his arm extended on a ftool.

After about an hour he complained of intenfe pain between the tumour and the part to which the preffure was applied. On examination I found, that in fpite of all my endeavours the artery had recovered itfelf, and this pain feemed to arife either from the blood again diftending the contracted part of the artery, or from the veffel itfelf attempting to dilate, notwithftanding the refiftance of the trufs. This appeared the more certain,

certain, becauſe a pulſation, not very obſcure, could be felt below the preſſure; and becauſe, on the application of my finger immediately over the artery, the pain ceaſed. The apparatus was placed on a freſh and thicker wedge at the ſmall end of the truſs; but in the ſpace of half an hour the pain returned, and was eaſily relieved by elevating the narrow end of the truſs ſo as to increaſe the preſſure. As my patient found immediate relief from this, he expreſſed no longer any wiſh to have the truſs removed. For about ſix hours the pain recurred at intervals, though in a ſlighter degree, and was always removed by the ſame means. The laſt paroxyſm was whilſt at dinner. After this he felt ſo great a drowſineſs come over him that it was difficult to keep awake, though he continued to eat. It ſeems at leaſt probable, that the blood ceaſing altogether to flow through the artery, produced, for a ſhort time, a fulneſs in the veſſels about the brain ſufficient to occaſion this heavineſs. In the night he had pains in his hand and fore-arm, but ſlept tolerably well. In the morning the arm appeared thickened from the part preſſed downwards. All the fingers and thumb were inſenſible, though warmer to the feel than thoſe of the other hand, thickened, and of a florid complexion. A pain was felt alternately at the back of the hand, and the inſide of the fore-arm; and the veins of both, whenever the pain occurred, were particularly turgid. Cold ſaturnine applications ſeemed to give ſome relief, but elevating the hand ſtill more.

The occaſional exacerbations of pain continued without violence, and with leſs frequency for three days, after which they never returned. There was, however, as the patient expreſſed it, a fidgety kind of a feel about the hand for ſome days after; and it was curious to obſerve, as the thickening* of the arm gradually ſubſided, ſo as to expoſe the more ſuperficial veins, how much they were contracted in their diameter.

I have deſcribed the pain, from the time the artery was cloſed, as ſeated altogether in the veins. It is extremely difficult to reaſon from a ſingle inſtance, but a conſtant attention to every the moſt minute particular, may allow a larger latitude than the common courſe of practice. From this I ſhould not ſcruple to ſay, that the pain aroſe from the valves of the veins being overſtretched by a column of blood falling back ſuddenly upon them. Though it is well-known that every part of the vaſcular ſyſtem contracts its diameter in proportion to its contents, yet it is not leſs

* I have called it thickening becauſe it had not the true leucophlegmatic or œdematous appearance, retaining no impreſſion of the finger, and the colour being brighter.

lefs certain that the veins, befides that they are more numerous, do not poffefs this contractile power equal to the arteries. Hence the fudden deprivation of fuch a portion of blood as the humeral artery affords, muft produce a deficiency firft in the extreme branches of the veins; in confequence of which, the valves not being fupported, a column of blood would be likely to fall fo fuddenly upon them as to produce intenfe pain from the novelty and fuddennefs of the fenfation. That this is really the cafe I had a remarkable illuftration in an aneurifm of the temporal artery, which the polite attention of the medical gentlemen of the Englifh Naval Hofpital at Lifbon, gave me an opportunity of examining.

This cafe was of two years ftanding; and, from the obftinacy of the patient, no means had been ufed for his relief. The whole artery was dilated from the temples on each fide over the cranium. The man was fubject to violent paroxyfms of pain, which he felt not in the artery, but immediately above the nofe where the veins are fuperficial. Without, however, infifting on this caufe of the pain, the fact itfelf, ftrengthened by the obfervations of others, fhows that there is frequently a kind of fympathy between arteries and their correfponding veins.

In the firft cafe related by Mr. Home of popliteal aneurifm, the femoral vein was found obliterated. In the fecond cafe, immediately after the operation, the fuperficial veins of the leg became turgid. In this operation the vein was included in the ligature, but thofe remaining were more than fufficient for whatever blood could be conveyed after the deftruction of the artery. Morgaffie furnifhes inftances much more ftriking than thefe: I need only refer you to XL, 23. Thofe of VIII. 11, and XLIII, 22, may be afcribed to a gradual enlargement in the artery, which produced a neceffity of the fame in the veins. Still, however, the exact correfpondence is worthy remarking. But the moft ftriking cafe is that related by Haller, in his Pathological Enquiries, XIX. Here the left carotid artery and jugular vein were both filled with a white, foft, and firm fubftance. In XX (note) we are referred to a cafe of aneurifm of the aorta, in which the vena cava was filled with a fat medullary fubftance. Thefe hints are, however, only thrown out for your future obfervation in cafes that are fo frequently offering themfelves to you.

That I might as little as poffible interrupt the hiftory of the fymptoms from preffure, I have taken no notice of the tumour fince the evening after the firft application of the trufs. The fkin grew more tranfparent, and difcovered under it a blacker appearance. In about two days the cuticle peeled off, and a black coagulum appeared covered with a thin pellicle, either

rete

rete mucosum, or stratum of coagulable lymph. The smell was that of putrid animal matter. On the following day a large quantity of serum, tinged with red particles, was discharged; the coagulum was extremely putrid, and had all the appearance of mortified integuments. I was not, however, at all alarmed at this appearance. It required no superior sagacity in one who had traced the whole progress of the mischief, to see that the coagulated blood which had retained its life, and probably taken vessels to support that life, as long as it could be useful in closing the orifice of the artery, had now lost its life, and being too considerable to be absorbed, was to be thrown out like any other extraneous body.* For three days the aperture of the skin continued to enlarge, and at the lower edge had a sloughy appearance. In every other part it was easy to see that the putrid coagulum was totally distinct from the integuments. The appearance was, however, so formidable as to alarm the surgeon of the frigate; and three days after, when we arrived at the fleet, and the case had become still more marked by a hollowness, without suppuration between the coagulum and integuments, the Surgeon-general could not be convinced that the whole was not mortification of the original parts. On the day following, the Surgeon-general of the Naval Hospital at Gibraltar, a gentleman who, by many years residence at a hospital in the metropolis, had enjoyed peculiar advantages, expressed his doubts. I mention this not out of disrespect to these gentlemen, but that the medical reader may have a just conception of the appearance; and, in case of a similar occurrence, may feel as little embarrassed as possible. It is but justice to add, that both these gentleman had the candour to acknowledge themselves convinced, and to congratulate me on having saved my patient the danger of a painful and uncertain operation.

The aperture continued to enlarge to a circle, the diameter of which could not be less than two inches, after which it became stationary. The discharge continued of the same complexion and quantity for three days; after which it became limpid, but for three days more in as great a quantity as ever. From that time it began to lessen, the putrid coagulum to be elevated, and gradually thrown out, the œdema in the arm to

* See two cases in the Edinburgh Medical Essays Abridged, vol. ii, page 53 and 55. In the first of these, the above appearances having occurred in a more recent state, are very accurately described as a "polypus substance and blood in a fluid state." I might also remark, that in this case "the hand, during the cure, was *apt* to be œdematous;" and that this œdema appears, by the account, to have always subsided suddenly. It was, therefore, probably, only a turgescence of the veins.

disappear, and the orifice to contract. By degrees a redness was discovered at the bottom which looked like granulation, but was, in fact, only the muscles exposed by the removal of the coagulum. During this whole time no applications were used but dry lint; the sore never was painful nor troublesome after the serous discharge ceased. The fingers remained insensible and useless for several days; after which the joint nearest the hand acquired some motion; and in about three weeks after the successful application of pressure, all but the thumb and fore-finger had acquired motion. In the mean while the superficial veins began to enlarge, an obscure pulsation could be perceived at the wrist, and it was curious to observe a circumscribed line in each of the nails which divided the extreme part of a dusky hue from that nearer the root, which had the splendour and semi-transparency of living nails.

It was full three weeks more before the forefinger and thumb recovered themselves at all; even then the limb was weaker than the other, and colder to the touch. It was, however, equal to all the common purposes of life; and when we parted at the Tagus, no difficulty was found in managing the full decanter without the help of the other hand. This was on the 11th of July. By letter of his own writing, dated January, 1798, it appears, that even then the first joints of the thumb, fore-finger, and mid-finger had not acquired their original strength. "These inconveniences," he adds, "are so trifling, that I should not have mentioned them had you not desired me to be very particular." The sore had completely cicatrized before the conclusion of the month of July, 1797.

The case above related having arisen from one of the most common operations in surgery, it is of some importance to trace the causes that might contribute to it, and also the manner of relief. The pressure of the flannel waistcoat, mentioned at the beginning of the paper, probably obscured the pulsation of the artery so as to prevent its being felt before the operation. To the same cause may be imputed the want of force and of saltus in the flow of the blood after the incision. This is not meant as an apology, but a confession; because, without doubt, every part of the arm should have been examined, and the sleeve have been opened to prevent any embarrassment in the operation. I have before remarked, that an old cicatrix was chosen, on which the patient, to use his own language, had been bled a hundred times before. This occasional alteration in the course of the vessels is too well known to require any comment. The attempt to stop the blood by pressure, below the orifice, did not succeed: but the uncertain division of the veins at this part, often occasions this difficulty. When pressure was applied

plied immediately over the orifice, the bleeding was ſtopped much more eaſily than often happens from venæſection in hot weather. Theſe are the only extenuating circumſtances to be offered for not diſcovering the error at firſt. Had it been otherwiſe, there is no reaſon to doubt but a competent preſſure over the orifice, and above it, might have prevented all the ſubſequent miſchief.

In the ſecond ſtage of the diſeaſe, ſix weeks after the accident, the artery might as well have been obliterated as at any ſubſequent period, by which means the extravaſated coagulum might have been abſorbed, and the inconveniences of a large ſore avoided. But it will at once occur to the medical reader, that the obliteration of a large artery is not an experiment to be made on conjecture. I have already traced my doubts on that ſubject; and though men, who have ſeen little, and write much, can readily give an unembarraſſed opinion; yet, to me, it is ſufficient, that one who knew too well the value of truth to ſport with it, is not aſhamed of expreſſing his doubts on ecchymoſis.

"It has often," he ſays, "the appearance of incyſted tumour, but being an immediate conſequence of ſome accident on the parts, its nature becomes readily underſtood; though, ſometimes, from its ſituation, it has the ſymptoms of aneuriſm; neither does the cauſe of it contradict the idea.

"If formed over a large artery, the tumour will be attended with pulſation; but when from this cauſe it cannot be made to ſubſide by preſſure, yet it is not to be ſuppoſed harmleſs, as in fact it requires to be treated with great caution. If the pulſations ſhould ariſe from the real impulſe of the blood, it will be ſhown by the increaſe of the tumour,*" &c.

Not to detain you any longer on a ſubject which can be no further intereſting than as it leads to a more exact deſcription of the caſe, I ſhall offer one important enquiry on this manner of treating aneuriſms.

The only caſe on record, treated in this manner, is that related by Mr. Home.† As the aneuriſm did not ariſe from injury the ſac was conſequently entire, which is no inconſiderable advantage under ſuch a mode of cure. For if the blood is once coagulated in the ſac, and in the portion of artery below it, the cure muſt follow; becauſe the ſac being impervious can only be diſtended to a certain degree; after which the flow of blood, lower than the ſuperior branches of the artery, would be effectually prevented. Hence we might expect thoſe appear-

---

* Hunter on the blood, Page 196.

† Memoirs, &c. vol. I.

ances defcribed by Mr. Home.—"The tumour," he obferves, "increafed to a confiderable fize; a great degree of fwelling and inflammation took place in the fac, and common integuments and mortification appeared to be coming on the fkin. While in this ftate no pulfation could be felt in the tumour, or the artery immediately above it, fo that the fteps preceding mortification had taken place, which put a ftop to the dilatation of the fac and all its confequences."

Though no one is more ready to admit that harmony of action, which Mr. Hunter has fo beautifully traced in many parts of the œconomy; yet, in the prefent inftance, Mr. Home feems to me to have prefumed upon it where it cannot be proved, and where it is altogether unneceffary. To account for the coagulation of blood in arteries above a mortified part, we need only refer to the fame fource as Mr. Home quotes. "There is," fays Mr. Hunter, "an important difference between death from mortification, and any other caufe. A dead man, or a limb cut from a living man, may be injected; but in a mortified part we can neither difcover blood veffels, mufcles, or cellular membrane. The whole has one uniform white leathery appearance."* It is true the fame phyfiologift obferves, that the coagulation of the blood, in fome cafes, is fo much higher than the mortification has extended, that it can only arife from a preparatory ftep to mortification itfelf.† But it does not appear probable that the difpofition to mortification fhould extend fo far as to bring the neighbouring veffels into action, and yet ceafe without mortification actually following. In the cafe from Mr. Hunter, above referred to, the patient died before the difeafe could extend fo far. We have other inftances of a preparatory action marking the future progrefs of a difeafe; but, I believe, in all fuch cafes, the difeafe itfelf never fails to follow.

This has been accurately afcertained by Mr. Hunter in cafes of morbid poifon, even when a difeafe has been fufpended for a time by a remedy; but it may be traced in moft of the commoneft operations of difeafe and reftoration. I fhall inftance only one. When matter has formed in any part, however diftant from the furface, we are for fome time in doubt whether it will make its way to the fkin, or be abforbed; but from the time that we fee a florid appearance become permanent on the fkin, we are fatisfied that the matter, however diftant, will make its way outward. If, afterwards, we perceive one part of this reddened fkin fomewhat elongated, and paler than the reft,

---

* Hunter's Lectures.—This quotation is from memory.
† Treatife on the Blood, &c. page 23.

reſt, ſo as to point, as we uſually term it, we are not leſs certain that the matter will find its firſt exit at that place; and however inconvenient ſuch a part may be, no endeavours of the ſurgeon can fruſtrate the intentions of Nature. Should he even make an artificial opening, the part which pointed will ulcerate as deep as the abſceſs, though the contained matter may have been previouſly evacuated.

From this, and many other inſtances of the kind, it is probable that the diſpoſition to mortification could not have extended ſo far as to bring the neighbouring veſſels into a preparatory action, without mortification itſelf following. It is indeed difficult to conceive how a part highly inflamed can fail to mortify when ſuddenly deprived of all the blood that fed it; for this coagulation muſt have extended to all the minuteſt branches connected with the tumour, or prove unequal to the intention of Nature.

It ſeems therefore moſt probable that the blood had coagulated in the ſac, and probably in the artery between the ſac and the place of preſſure. In either caſe, the artery would contract itſelf, from the blood no longer paſſing through it, or being much diminiſhed in quantity. But the conſtant efforts of the heart and larger arteries might for an inſtant overcome this preſſure in a variety of ways, in which caſe the blood ſuddenly entering the contracted artery, would produce pain, either from the ſudden change in the ſituation of the artery, from the neighbouring nerve being affected, or from the blood flowing into the now impervious ſac.

There are many reaſons why the artery above the ſac ſhould recover itſelf, while the ſac remains impervious. The firſt is, that the ſac has loſt its elaſticity. The artery, on the contrary, having contracted upon its contents, is likely to preſerve a ſmall diameter. If this is filled with coagulum, and the preſſure is overcome before that coagulum is firm, or has even taken veſſels, the coagulum may readily be forced into the ſac and the blood follow, not only becauſe the diameter of the artery may be increaſed, but becauſe as in this part the artery ſends off few or no branches, its conical figure is with its apex towards the heart.* At the ſame time, the ſituation of the artery below the ſac is very different in this reſpect, and alſo in the obſtruction which the blood muſt meet with in paſſing through the ſac, now ſtuffed with coagulum and deprived of its elaſticity.

I ſhould not have dwelt ſo long on this ſubject had it been merely

* Hunter on the blood, p. 168, & ſeq.

merely a matter of curiofity; but if, as the moft exact and continued obfervation convinces me, in the cafe I have related, the pain during the preffure arofe from the artery overcoming that preffure, it is obvious that the remedy is to increafe it; and the fuccefs I met with juftifies fuch a conclufion.

The advantages an operating furgeon may derive from fuch a fact appear to me very numerous. In cafes of aneurifm the whole operation of cutting, fearching for, and tying the artery, which, how much foever fimplified by Mr. Hunter's important improvement, is by no means trifling, may be faved. In cafes of bleeding ftumps, inftead of the uncertain procefs of tying the artery higher, or even renewing the operation, fuch an application would promife every fuccefs, and be attended with few inconveniences. Since the late improvement in amputation by Mr. Allanfon, the only thing which prevents an immediate union of the parts compofing the ftump is the ligature.

In warm climates the ligature proves the principal danger, from the frequent recurrence of locked-jaw. To leffen this danger, and the great pain that attends the common mode of tying the artery, it has been propofed to diffect the nerve from it. In the few cafes that I have feen, where this has been attempted, it has been a matter of doubt with me whether the pain has been much leffened. At the fame time the operation has been prolonged, and I have had reafon to believe that the artery, thus deprived of the veffels that fupported it,* has floughed fooner, fo as to endanger a bleeding ftump.

If fuch a compreffing inftrument were applied over the artery of a limb to be amputated, fome time before the operation, the furgeon would have known how far he might depend on its having completely ftopped the flow of blood, and might perform his operation without embarraffment to himfelf, almoft without uneafinefs to his patient, and with the faireft profpect of fuccefs. For this purpofe, the furgeon or his affiftant, fhould remain with the patient, and if neceffary increafe the preffure, till he is fatisfied there is no longer any danger of the artery recovering itfelf. The inftrument might be left on after the operation is completed.

But moft of all, in thofe unhappy cafes of hæmorrhage from wounds, where the furgeon is abfent, or called to a variety of cafes at the fame time, how much preferable would fuch an inftrument be to the tourniquet? Should the wounded veffel be deep feated, or the hæmorrhage proceed from a number of wounded

---

* The vafa arteriarum are fupplied not from the artery itfelf, but from the neighbouring veffels. Hunter on the Blood, &c. p. 131.

wounded ones, how dreadful and often how unſucceſsful does the attempt prove of taking up the artery. All this, however, and much more, will occur to you. Inſtead, therefore, of proceeding any further, I ought to aſk pardon for having detained you ſo long. I cannot however omit one little incident, to ſhow ſtill further how little we need be afraid of the capacity of the veſſels to perform their reſtorative functions, after the obliteration of the large artery. Whilſt the fore-finger was incapable of ſenſe or motion, it was ſcalded with boiling water from a tea-urn. Of this the patient knew nothing but by the evidence of his ſight. Such was the caſe during the veſication, ulceration, and conſequent healing of the part, which took place in as ſhort a time as if the finger had received its uſual portion of blood.

To the Editors of the Medical and Phyſical Journal.

Gentlemen,

In the letter I addreſſed to you in April laſt, on the ſubject of Mr. Pott's artificial leg, I flattered myſelf that I had been ſo extremely guarded in my expreſſions, as to have avoided every poſſibility of giving that gentleman offence. I find, however, that neither the precaution I uſed, nor the advice Mr. Sheldrake gave, have been ſufficient to prevent Mr. P. replying to me, with a degree of ill humour, which I can only attribute to chagrin and jealouſy, occaſioned by ſeeing a rival invention patronized and recommended by ſo many reſpectable members of the profeſſion.

Mr. Mann's patent leg was introduced to my notice, ſeveral years ſince, by two gentlemen, who (uniting a high degree of mechanical knowledge with the information neceſſarily derived from their ſituations, as ſurgeons to two of the largeſt hoſpitals in the metropolis) might be conſidered fully adequate to judge of the merits of an inſtrument of this kind; they imagined my profeſſion, and the appointment I held at Chelſea Hoſpital, might afford me opportunities of giving it that publicity they thought it entitled to; and, from that period, I certainly have, "with the feelings of a faithful ſteward," endeavoured to promote Mr. Mann's intereſt, and I truſt, in ſome meaſure alſo, the advantage of thoſe whoſe misfortune rendered this machine peculiarly intereſting to them.

My aſſertion of Mr. Mann's title to the credit of having *firſt* diſcovered an inſtrument, poſſeſſing certain properties, had immediate

immediate reference to Mr. Potts's claim of priority on the ſame ſcore, a claim he is now obliged to abandon; and thus far my aſſertion will be found ſtrictly and literally true. In regard to productions of this kind, antecedent to Mr. Mann's, if there really were any, they certainly were not held in ſufficient eſtimation to make them objects of public notoriety; and in this point of view, I repeat my aſſertion, that Mr. M. was the *first person* who produced an artificial leg, poſſeſſing the qualities aſcribed to his, in ſuch a degree of perfection as to excite the attention and approbation of ſo many high profeſſional characters. If Mr. Potts's diſcovery "has merit enough to bear a compariſon with any other intended for the ſame purpoſe," let him patiently and quietly await that teſt, to which, I repeat, (though I may again expoſe myſelf to the charge of "an inſidious affectation of candour,") I wiſh their reſpective claims to be ſubmitted, *that of experience.* By doing this, and following Mr. Sheldrake's excellent advice, of "avoiding to engage in any public controverſy on the ſubject," he will render more ſervice to his cauſe, than by filling twenty pages with peeviſh and uſeleſs diſputation, (the certain evidence of mortification and diſappointment). At all events, gentlemen, I am determined to reap the benefit of his friend's admonition, and therefore promiſe you never again on this ſubject to occupy any part of a publication that would otherways be ſo much better employed. I am, &c.

Chelsea, Nov. 1801. J. R. REID, Surgeon.

Mr. Crowfoot's Case of Apoplexy.

ON the firſt peruſal of the following Statement, and the Anſwer to it, we thought it bore too much of the character of a *personal* diſpute to be admitted. Conſidering, however, that many of our Readers may be divided in their opinions on this important diſeaſe, and that a knowledge of the true cauſes of Apoplexy, and the moſt rational mode of treating it, cannot be too ſoon or too widely diffuſed, we have ſubmitted it to our Readers in its preſent form, in order to collect their ſentiments on the ſubject. For this reaſon, we forbear giving any opinion of our own at preſent.

A STATEMENT

A STATEMENT of a certain Case of APOPLEXY, Signed William Crowfoot.

ON Wednefday the 26th of Auguft, 1801, a lady, aged 59, was feized, almoft as foon as dinner was ended, with an attack of Apoplexy.*

Mr. P. who had been called in, had blooded the patient, and applied blifters to the arms. It was between feven and eight o'clock when I arrived, and found the lady much better, but complaining of head-ach and ficknefs. I agreed with Mr. P. in the propriety of emptying the ftomach by an emetic.†

But Dr. L. being expected every inftant, and the patient very much relieved, I thought it unneceffary to do any thing farther before he came. I now went down ftairs, and requeft-ed to take my leave; the lady being materially recovered, I did not conceive my prefence effential to her well-doing. I had fubftantial reafons for avoiding an interview with the Doctor, (and reafons I am very willing to declare both to himfelf and others) but the gentleman of the houfe being defirous I fhould not leave B. gave me an offer (knowing thefe objections) that I fhould retire to another room. I acquiefced; but before the neceffary arrangement could take place, the very man I had been fo ftudious to efcape from, prefented himfelf at the door; we were, in truth, taken by furprife; and the gentleman, un-willing to wound my feelings by an introduction, fuppreffed my name as being prefent, and thereby placed me in a very awkward and uncomfortable fituation. After a few minutes abfence, and a firft fight of the patient, the Doctor returned with a decided opinion as to the nature of the cafe, and affert-ed, in the moft pofitive language, that there was a confiderable extravafation of blood upon the brain, and that the ficknefs was the effect of compreffion, &c. He declared, that an eme-tic, which he underftood was propofed to be given, was a moft injudicious remedy; that vomiting caufed a very great deter-mination to the head, and the action of vomiting would but increafe the complaint; the ficknefs in this cafe was merely fymptomatic, the fame as in violent injuries of the head, where-in vomiting always fupervened, &c. It may be fuppofed, that

* This is called Apoplexy, to avoid all occafion of cavilling. I was not prefent during the paroxyfm, but I underftood the patient was much convulfed.

† With regard to the propriety of emetics in cafes of Apoplexy, I beg to refer to an excellent paper on that fubject by Dr. Fothergill. Vide Medical Obfervations and Inquiries, vol. v. p. 80.

during this explanation of the patient's ſituation, my imagined concealment was extremely irkſome to me, and muſt have been borne with great impatience; for I was thus made a witneſs to converſation in which my conduct was concerned, without the power of making any reply.*

It became inſupportable, and I announced myſelf with aſſuring the Doctor, I was incapable of performing ſo vile an action as that of a ſpy, and how accidentally, as well as unintentionally on my part, I had thus fallen into his company. The gentleman declared he had not mentioned my being there, becauſe he thought I ſhould diſlike it. I ſaid, I certainly had objections to meeting Dr. L. for reaſons which the time and place did not allow me to explain; but having met, I could not ſubmit to any imputation on my character, which my ſilence might occaſion; indeed, it appeared a dereliction of my duty, which now called for a ſacrifice of my private feeling, and I thought it would be highly diſhonourable to ſhrink from ſuch a diſcloſure. The Doctor, upon this, expreſſed his deſire to be upon good terms with every medical man; and to prove his ſincerity, aſſured me, he would go fifty miles to ſerve poor Revans; adverting then to the patient. He ſpoke of applying leeches; and turning towards me, anſwered for my concurrence in the propriety of his advice. I told him I did think topical bleeding very proper, and for the reaſon he had juſt aſſigned; that is to ſay, that it would not weaken like general bleeding: But I did not agree with him, by any means, in his doctrine of extravaſation; for, in my judgment, a conſiderable extravaſation, and conſequently, conſiderable compreſſion, muſt produce ſymptoms of the moſt formidable nature; and which ſymptoms, in the caſe above ſtairs, did not appear to exiſt. The patient at this moment was ſenſible and collected; ſhe remembered not only writing a note to me the day before, but alſo the occaſion of writing, which ſhe explained to me; there was no mark of paralyſis, or interruption of the vital functions; no appearance of oppreſſion in the countenance or the pulſe: And in the hope to quiet the alarm occaſioned by the Doctor's declaration to the gentleman, I took the liberty to aſſure him, upon taking leave, there was no extravaſation, and my confident hope that we ſhould find her better in the morning.

Thurſday, Auguſt 27. Our patient was better; ſhe paſſed a very good night; the leeches had not been applied, thoſe procured

---

* Mr. P. was at this time in the ſick chamber above ſtairs, and of courſe could have no opportunity of defending himſelf.

cured being thought but indifferent, and becaufe the patient was manifeftly much amended; they were, however, ufed this morning.

Friday, Auguft 28. Continued in the ftate of convalefcence. I thought the idea of extravafation muft be relinquifhed; and in converfation this morning, in prefence of the gentleman and Mr. P. the fubject was brought again under difcuffion. The Doctor was of opinion very little remained, but he expreffed his conviction of it in the firft inftance; and in every cafe of Apoplexy, he never knew, he faid, any cafe where there was an abolition of the fenfes, the jaw became locked, and the hand fell down, but it was occafioned by extravafation. I afked him if he had ever feen a cafe of Epilepfy? He faid, he hoped I diftinguifhed between Apoplexy and Epilepfy. To which I replied, I only meant to prove his affertion unfounded, that the abolition of the fenfes was always the confequence of extravafation. I told him I was perfectly aftonifhed to hear him declare fo pofitively, after firft feeing the patient, that there was confiderable extravafation of blood upon the brain. He anfwered, he believed he did not fay confiderable, and that it might rather be exudation than extravafation. I told the Doctor, he might call it which he pleafed; if it was confiderable, compreffion muft be the confequence, and in my opinion it was a diftinction without a difference. But I affured him he ufed the expreffion of *considerable extravasation*, and that the opinion was directly in oppofition to my judgment. Dr. L. acknowledged the beft Anatomifts were of different opinions on the fubject, but that he had diffected many, and had always obferved it to arife from extravafation. The gentleman here clofed the converfation by obferving, that all thofe Dr. L. had diffected were fatal cafes, and he hoped the head in queftion would not require fuch an examination.

W. CROWFOOT.

Beccles, Sept. 12, 1801.

There was a Note, which Dr. L. had not time to copy, containing an obfervation of Mr. Crowfoot, that if extravafation had ever really taken place in the cafe of this lady, that fhe certainly would not have been in a fituation, at the time we met, to require any affiftance from us; meaning, as Mr. P. and myfelf fuppofed, that in *all cases of extravasation on the brain death ensues*. If our fuppofition is wrong, Mr. C. will have the goodnefs to explain himfelf.

The

The following is a Copy of Dr. FOTHERGILL'S Paper upon Apoplexy, alluded to by Mr. CROWFOOT in his Statement.

IT is inculcated by Dr. Fothergill, in the paper before referred to, that the obvious cauſe of Apoplexy, in the greater number of caſes, ariſes from the ſtomach, and therefore the affection in the head is ſymptomatic; and in conformity with this doctrine, he ſays, We are as ſpeedily as poſſible to endeavour, by all the means we can, to remove the load by emetics, purgatives, &c.

We need not, ſays he, be under much reſtraint in the uſe of theſe remedies, till thorough evacuations are procured; the ſtimulus excited in the ſtomach, and the room provided by a freer circulation, are almoſt alike beneficial, and without diminiſhing the patient's ſtrength, make way for his recovery. I am of opinion, ſays the ſame gentleman, that we ſhould probably render the moſt effectual aid by endeavouring, in all caſes, to procure a plentiful diſcharge from the ſtomach and bowels, as by theſe revulſions the head is never more relieved from plenitude, and that without weakening or interruption of other efforts of Nature to relieve herſelf.

There was alſo another Note, containing the caſe of a Mrs. N. who was attacked with Apoplexy, and attended by Mr. D. who cured her by judiciouſly adminiſtering emetics, as ſtated in this note by Mr. C. Vide Dr. L's comment on this note.

An ANSWER to a STATEMENT of a certain Case of APOPLEXY. Signed W. CROWFOOT, *Beccles, Sept.* 12, 1801.

ON Wedneſday, the 26th of Auguſt, 1801, between ſeven and eight o'clock, P. M. I received a letter from a gentleman, ſtating that his wife, a lady of great reſpectability and conſequence, was ſeized with an apoplectic fit, and requeſting my attendance with all poſſible ſpeed. Upon being introduced into the parlour, I found the huſband, his brother, ſon, daughter, and another gentleman whom I did not know, in the room. The huſband of the lady deſired me to ſee her inſtantly, and report to *him* my opinion of her caſe. I obeyed, and found a young

a young ſurgeon, Mr. P. in her room, who related to me all the ſymptoms which had exiſted upon his arrival two or three hours before, and his reaſons for deeming the *attack apoplexy*; that he had conſequently bled her immediately, and applied two large bliſters to the ſuperior part of the arms. His ſtatement of the caſe and ſymptoms, ſuppoſing them correct, convinced me *he was right* in his conjecture, and I approved of what he had done. He then informed me he had alſo ſent for an emetic; I inſtantly told him that I did not approve of emetics in Apoplexy, becauſe I conſidered the diſeaſe as *always* ariſing from compreſſion of the brain; and in this caſe it muſt be produced either by extravaſation, exudation, or effuſion; and as the act of vomiting tended to force the blood more violently into the head, or impede its return from thence, it would of courſe rather increaſe than diminiſh *the cause* of the diſeaſe. He was inſtantly convinced of the propriety of my reaſoning, and relinquiſhed the idea. Mr. P. now aſked me if I had ſeen Mr. Crowfoot? I told him I did not know Mr. C.; that there was ſome ſtranger in the parlour, but whether that was Mr. C. I could not ſay. I now returned, and informed the huſband of the lady that I believed Mr. P. *right in his opinion* that the attack was apoplectic, and that there was, or had been, extravaſation, which had been the cauſe of it; that I highly approved of the bleeding her, and the application of the bliſters.* Underſtanding, however, that it was known that the exhibition of an emetic was in contemplation, *and my having now* forbidden it, I thought it my duty to explain my motives for ſo doing, in juſtice both to myſelf *and Mr. P.* who, as yet, I conſidered as the *sole* propoſer of it. I therefore ſaid, that though there was conſiderable nauſea and ſickneſs at the ſtomach, I conſidered this ſymptom as ſymptomatic, or an effect of the compreſſion of the brain, and not as a cauſe or ariſing from any foulneſs of the ſtomach; I therefore thought that vomiting could not poſſibly do good, but, on the contrary, might do *great injury*, by forcing more blood or ſerous fluid from the veſſels of the head, and thereby increaſe the compreſſion of the brain.† Inſtead of the emetic I ſhould therefore recommend leeches to the temples, which would ſtill more unload the neighbouring veſſels, and not tend ſo much to debilitate the general ſyſtem as taking more blood from the arm would do. I was *thus proceeding*, when

* Not from their ſtimulating or revulſionary powers, but from their tendency to take off or diminiſh the hæmorrhagic diſpoſition or diatheſis.

† No one, I believe, would think of an emetic to remove the nauſea or ſickneſs induced by a fractured ſkull, combined with depreſſion. And this is a caſe of apoplexy, though produced by acident or violence.

when the ſtranger aroſe, and obſerved to the gentleman I was addreſſing, that he ſuppoſed there was no farther neceſſity for his remaining, and that he ſhould therefore wiſh to take his leave, particularly as he expected to be called to a labour. I inſtantly requeſted to know if that gentleman was Mr. C.? and being anſwered in the affirmative, I obſerved that we ought to have been introduced to each other; and then ſaid to Mr. C. that notwithſtanding *his preſence* might be diſpenſed with, as there was another Surgeon in the houſe; yet as he, Mr. C. had been in the habit of attending upon the lady, it might be more agreeable *to her* for him to apply the leeches, &c. &c. and that, notwithſtanding any private diſputes or diſagreements, it was our duty when met, to exert our joint efforts to preſerve ſo valuable a life as that of our patient. Mr. C. now returned to his ſeat, and a meſſenger who had been diſpatched for leeches, returned with two very weak ones. I thought it uſeleſs to trouble the lady with an attempt to apply them, as the attempt would probably be unſucceſsful, and only teize and trouble her to no purpoſe. It was then agreed upon to ſend another meſſenger early in the morning to Loweſtoffe, for more and better leeches; and Mr. C. took leave politely, requeſting of me to know what hour in the morning I would wiſh him to return? I propoſed nine o'clock, but hoped, at all events, he would not exceed ten; and Mr. C. civilly aſſured me I might depend upon his arriving between nine and ten o'clock.

I ſhall now revert to our patient, who had been aſſuredly much relieved by the bleeding, but ſtill complained of conſiderable pain, ſtricture, and oppreſſion in the head, attended occaſionally with ſlight ſickneſs and nauſea. I thought it moſt prudent, during this interval, to procure an evacuation from the inteſtines, and ordered an opening mixture to be ſent by Mr. Primroſe, and to be adminiſtered in ſmall doſes frequently repeated (to avoid, if poſſible, exciting the action of vomiting) till the deſired effect was produced. I then retired to bed, about twelve o'clock, with directions to be called again upon the acceſſion, or farther increaſe, of unpleaſant ſymptoms; I was not however diſturbed till ſix o'clock, A. M. when I was requeſted to ſee the lady inſtantly, for that ſhe complained of much greater pain, fullneſs, and ſtricture in the head, together with an increaſe of nauſea. However, as the opening medicine had now juſt ſucceeded, and as the pulſe was tolerably free, I determined to wait the arrival of the leeches and Mr. C. rather than weaken the ſyſtem by taking more blood from the arm, unleſs the ſymptoms of compreſſion ſhould ſtill more advance, and compel me to bleed again from the arm, or temporal artery, which was my determination to do, if we did not ſucceed in procuring

ing leeches, in order to obviate a greater evil, namely, the increaſe of compreſſion by farther effuſion upon the brain; fortunately Mr. C. and eight or nine good leeches arrived, ſoon after nine o'clock, and four or five were inſtantly applied by Mr. C. with ſuch ſucceſs, that a very conſiderable *evacuation* of blood was produced, with an immediate alleviation of the pain, ſtricture, and ſenſe of oppreſſion in the head.

My apprehenſions of farther effuſion upon the brain were therefore now much abated; I wrote a preſcription for ſome ſaline draughts to be exhibited every ſix hours, and I left my patient with great hopes of recovery. But before my departure, Mr. C. and myſelf agreed to meet again upon the following day, Friday, 28th of Auguſt, at twelve o'clock. I was, however, unfortunately detained by another very urgent profeſſional call, which prevented my arriving till half paſt one o'clock, and I deemed it neceſſary to apologize to Mr. C. for having cauſed him to await my coming an hour and half. We found the patient much better, and without any ſymptoms of freſh effuſion, and the pain and oppreſſion of the head were much abated, and I had reaſon to believe the principal part of the effuſed fluid was now *re-abſorbed*. Upon our return to the parlour this day, a ſhort altercation took place between myſelf and Mr. C. upon the nature and cauſe of Apoplexy, in conſequence of his advancing an opinion that no extravaſation or exudation had taken place in the caſe of this lady. This converſation I ſhall introduce with comments, when I come to the examination of his *own* ſtatement of the caſe, after I have finiſhed my preſent narrative. Our patient being now in a proſperous way, I did not deem it neceſſary to ſee her on the following day, but left directions with Mr. P. to apprize me immediately of any return of the bad ſymptoms, and directed him on ſuch an emergency how to act till I ſhould arrive. I, however, promiſed at all events to viſit the lady on Sunday, the 30th of Auguſt, and on my arrival that day, was informed by the gentleman of the houſe, that in conſequence of his lady being ſo much better, he had written to Mr. C. to diſpenſe with his attendance upon that day, as my preſcription, he ſaid, could as conveniently be ſent to Beccles to be prepared, as if Mr. C. had himſelf attended to convey them. However, my preſcription was as uſual forwarded to Beccles. Appearances were now ſo favorable, I thought my attendance might with ſafety be diſpenſed with till Wedneſday, the 2d of September, when I again promiſed to attend; and on my arrival upon that day, I found our patient had experienced during my abſence, two or three periodical attacks of pyrexia, or febrile paroxyſms; upon which I deemed it neceſſary to order the bark, which preſcrip-

tion

tion was difpatched to Beccles. And on account of the periodical attack of fever, I engaged to fee the lady again on Friday, the 4th of September, after laying down the neceffary plan of proceeding till I fhould return. And on that day, the 4th of September, I had the fatisfaction to find that my prefcription had fucceeded in preventing any frefh acceffion of fever, I therefore directed a continuation of the fame medicine, though not fo frequent, till Sunday the 6th of September, when I promifed again to attend. On my arrival this day, I found that the only marks of remaining difeafe were debility and general relaxation, for the removal of which, I directed a chalybeate combined with bark as a tonic, to be adminiftered twice or thrice a day, and confidered it as unneceffary to attend again before Wednefday, the 9th of September. But from this time little change appeared to be indicated in the mode of treatment, as fhe gradually recovered ftrength, and is at this period, I believe, in more perfect health than fhe had been for feveral weeks previous to her attack.

After this candid ftatement of the leading particulars in this bufinefs, judge of my aftonifhment when I was informed for the *first time*, upon vifiting B. laft Thurfday, *the* 23d *instant*, September, by the hufband of the lady, that Mr. C. confidered himfelf ill treated by me,* and that he had drawn up a ftatement of the cafe, but that the gentleman had refufed to perufe it, without Mr. Crowfoot would confent to let me fee it; this was at length acceded to, and this ftatement was fent to Mr. Primrofe to be exhibited to me. Upon reading it, I was aftonifhed beyond meafure, as from what I had heard of Mr. C. I had confidered him as a man of liberal education, both medical and otherwife; how far this conjecture of mine was well founded, I fhall fubmit to the opinion of thofe medical readers who are qualified

* Is an apothecary *ill treated* by a phyfician, becaufe the latter, unfortunately for the medical reputation of the former, happens to differ from him in opinion upon the utility of emetics in apoplexy, and poffeffes too much integrity to hazard the life of his patient, out of etiquette or compliment to him, on account of his having perhaps rafhly advifed the ufe of a very equivocal, if not truly dangerous remedy, in fuch a difeafe? Perhaps the world may be inclined to deem the attempt of the apothecary to oppofe the opinion of the phyfician, a much more ferious caufe of offence to the latter, than what the former could poffibly have received from the refiftance he experienced to the ufe of his emetic. Indeed, I have heard it ftated by fome, that they confidered the attempt of Mr. C. to contend with the opinion of the phyfician as an act bordering upon arrogance; to fay the beft of it, the meafure was affuredly indelicate, indifcreet, and impolitic; and it is more than probable, Mr. C. will think fo too, before he finifhes reading this anfwer to his ftatement of the cafe.

qualified to judge; but if his ſkill in the diagnoſtic and treatment of other diſeaſes, is no greater than what he appears to poſſeſs from this ſtatement, in regard to the cauſes, nature, and treatment of apoplexy, I am truly ſorry to have made this diſcovery, and ſtill more ſo that he, by his ſingular conduct in this buſineſs, ſo unwiſely and indiſcreetly compels me to make it public, and that merely to vindicate my own conduct and ſkill; for notwithſtanding I clearly diſcovered by converſation, at our *first interview*, that Mr. C's ideas of the cauſe and nature of apoplexy were extremely incorrect, yet I ſtudiouſly and delicately avoided to drop a hint of this diſcovery to the friends of the patient, leſt I ſhould injure the profeſſional reputation of Mr. C.; and this diſcovery would have been buried in oblivion, had not Mr. C. in his ſtatement, called upon me for a defence and juſtification of the opinions I had advanced; and though by many it may be deemed derogatory for a phyſician to condeſcend to contend, on *such an occassion*, with an apothecary, yet in this particular caſe, having had *those opinions* honoured by the ſupport and approbation of the family, I feel it incumbent upon me, for *their* juſtification, in having given a preference to my judgment, as well as for their ſatisfaction, to comment upon, and inveſtigate the merits of that ſtatement Mr. Crowfoot has thought proper to circulate.

Nemo mortalium omnibus Horis ſapit.

R. L.

Mr. C. obſerves on this caſe, that I declared that conſiderable extravaſation upon the brain exiſted,* and that the ſickneſs being the effect of the compreſſion, from the ſympathy which exiſted between the ſtomach and the brain, an emetic, as propoſed, could not poſſibly relieve this ſymptom, but in all probability aggravate it, by adding to the cauſe, and increaſe the extravaſation in the brain by forcing the blood with violence into the veſſels of the head, or preventing its return from thence, in the action of vomiting, and thus add to the original cauſe of the diſeaſe. He now ſtates his concealment from my knowledge as extremely irkſome, being made a witneſs to converſation in which his conduct was concerned. I can aſſure Mr. C. I did not then know that he had either ordered or *approved* the emetic; neither could I have ſuppoſed it poſſible an experienced practitioner of ſome celebrity, could have ventur-

* That the cauſe of apoplexy is always compreſſion of the brain from ſome cauſe, ſee Hoffman, (the father of modern practice in medicine) upon Apoplexy or Hæmorrhagia Cerebri, as he terms it; Boerhaave, Cullen, Fordyce, &c. &c. &c.

ed to recommend emetics in a difeafe he *had allowed to be Apoplexy.* In a note, Mr. C. obferves, that Mr. P. during this time, was above ftairs, and could have no opportunity of defending himfelf. What an infinuation is this! What appellation does fuch an inuendo as this note contains, merit? And allow me to afk Mr. C. which of us has made the *most severe* and illiberal attack on the profeffional character of Mr. P.; the phyfician, by explaining in his abfence (though with his approbation) his motives for rejecting the ufe of vomits in Apoplexy; or, the apothecary who *first apparently* approves and fupports Mr. P's opinion, that this lady's cafe was Apoplexy? Nay, farther, approves the bleeding and bliftering which had been had recourfe to on that *very principle!* Nay, himfelf recommends an emetic, upon the idea that *Dr. Fothergill had sanctioned their use in Apoplexy!* And now comes forward to ftate, that he admitted the cafe to be Apoplexy, to avoid *cavilling!* What a reproach is this then to the fkill of Mr. P.! Nay, what ungenerous conduct to the patient and her friends! For if the cafe was not Apoplexy, but as Mr. C. *now* feems to infinuate, a different difeafe, then, furely, his approving and recommending a mode of treatment particularly adapted to Apoplexy, and at the fame time believing the difeafe a different one, what title does fuch conduct deferve? But, as the treatment proved fuccefsful, is it not reafonable to infer, that the firft idea of the difeafe (and which idea fuggefted the treatment) was correct?

Mr. C. then proceeds to ftate, that he announced himfelf in thefe words, That he was incapable of acting fo vile a part as that of a fpy. Now, I moft folemnly aver, I never heard fuch a declaration. To the beft of my recollection, and it is alfo confirmed by thofe who were prefent, his mode of announcement was this: "As Dr. L. is arrived, there can be no farther occafion for my remaining here." And alfo, that he expected to be called to a labour. Upon which I afked, if that gentleman was Mr. Crowfoot, &c. &c. as before ftated in this Narrative. Neither can I remember any thing farther paffing that was material, than my ftating, that as he had been in the habit of attending this Lady as Apothecary, fhe might probably approve of his applying the leeches in preference to Mr. P. who had not before attended her profeffionally. This circumftance, as fhe was *now sensible*, was of fome importance. When Mr. P. bled her, fhe was *totally insensible*, and neither knew when it was done, or *by whom*; but being now in a *different state*, his prefence might be ufeful on that account, though on *every other* we could certainly conveniently difpenfe with it; and on fuch an occafion I thought all private difputes fhould be waved, and that we fhould jointly exert our utmoft efforts to preferve

fo

ſo valuable a life; that it was my rule, whenever my profeſ-ſional ſkill was called into action, to exert it to the utmoſt of my poor ability, even for an enemy.

This, as I recollect, was the exact purport of our converſa-tion, though it appears, in SOME reſpects, to *differ* from Mr. C's Statement. I now introduced the ſubject of the leeches, with obſerving, that they would more immediately empty the head, and thereby enable the abſorbents more readily to take up the effuſed fluid, and weaken the ſyſtem leſs than a farther ge-neral bleeding. Mr. C. approved of this doctrine, but *denied* the extravaſation. All modern authors are *decided* upon this point,* that compreſſion is the *only* cauſe of Apoplexy and that produced by the effuſion of blood or ſerum, and generally the former. Mr. C. then proceeds to ſtate, that in his judgment, if conſiderable extravaſation had taken place, the moſt formid-able ſymptoms muſt have ariſen; I aſk Mr. C. what *more* for-midable could ariſe than did in this caſe? The vital and animal functions, except thoſe of the heart and reſpiration, were *com-pletely arrested*; ſhe was totally *senseless*, and would have fallen to the floor if ſhe had not been ſupported; her reſpiration was laborious, and her jaw fell; and theſe alarming appearances continued a conſiderable time, and did not in the leaſt abate till about twenty minutes, or perhaps half an hour, after Mr. P. had bled her. If theſe ſymptoms were not ſufficiently formid-able to *indicate Apoplexy*, I ſhould ſuppoſe Mr. C. would not be inclined to admit of any thing ſhort of *death itself* to be ſuf-ficiently ſo. Indeed, he ſoon after intimates, that if extravaſa-tion had really exiſted in this caſe, the lady would not have been in a ſtate to require our help; or, in other words, that whenever extravaſation exiſted in the brain, it was immediately fatal.†

But,

* Except in caſes of fractured ſkull or tumours forming in the head. In a converſation I have ſince had with the truly intelligent and ſcientific Phy-ſician, and Lecturer, Dr. G. Fordyce, he aſſured me, he believed apoplexy was always produced by compreſſion, and that compreſſion rarely, if ever, was produced by any other cauſe than *extravasation of blood*, and ſeldom if ever from ſerum only.

† Mr. C. appears from his mode of reaſoning upon extravaſation on the brain, to have no idea of an abſorbing power exiſting in the animal œco-nomy. It is however, extraordinary if he ſhould be *now* to learn that every ſurface of the body, both internal and external, is ſupplied with a ſet of veſſels for *this express purpose*, called lymphatics; and notwithſtanding theſe lymphatics have not as yet been injected in the brain, the beſt phyſiologiſts are of opinion, that this neceſſary office may be performed *there*, by the orifices of the inhaling veins. Indeed, if ſuch a power did not exiſt in the head, Mr. C's ideas of ſpeedy diſſolution, in *all cases* of extravaſation on the brain, or

 apoplexy,

But, ſays Mr. C. there was no mark of paralyſis. Is Mr. C. then yet to learn, that probably half the caſes of Apoplexy which occur, do not terminate in paralyſis? If he will refer to the Works of the great, I had almoſt ſaid the immortal Cullen, he would ſee this opinion of mine *completely confirmed.*

Mr. C. then ſtates, that on Thurſday the 27th ſhe had paſſed a good night. Why then was I called to her relief at ſix o'clock, when *freſh symptoms* of effuſion began to appear, but which were alleviated by the evacuations which at *this period* were produced from the inteſtines? And though Mr. C. ſays ſhe was this morning manifeſtly mended, yet thoſe about her will inform Mr. C. that ſhe was by no means ſo well this morning as ſhe was when her huſband left her to retire to bed the night before, though ſhe was immediately and *manifestly relieved* by the application of the leeches. On our meeting the following day, the 28th, Mr. C. was ſtill ſo much attached to his favourite idea, that extravaſation was not neceſſary for the production of Apoplexy, that he again renewed the argument; when, in order to put a ſtop to a converſation that I conſidered ſo contrary to the eſtabliſhed doctrines of the day, I aſſured him it was my firm belief that *no case of real Apoplexy* could poſſibly occur without compreſſion; and that when the ſkull was not injured, the compreſſion was always produced either by extravaſation, exudation, or effuſion, in *every instance*, when it amounted to an abolition of the ſenſes, and that the patient fell to the ground. He then aſked me if I had ſeen a caſe of Epilepſy? I could not reſiſt ſmiling at this queſtion; and obſerved, that I hoped he was capable of diſtinguiſhing between Apoplexy and Epilepſy: We were not alluding to Epilepſy; and ſurely Mr. C. could not ſuppoſe I meant to aſſert, that in every caſe of inſenſibility there muſt neceſſarily be extravaſation.—Epilepſy, ſyncope from loſs of blood, hyſteria, delirium in fever, and many other cauſes of abolition of ſenſe, may ariſe where no extravaſation on the brain exiſts. But what I contend for is this, that whenever *Apoplexy occurs* to the extent before ſtated, and there is no fracture or tumour, then I aſſert, that extravaſation, exudation, or effuſion upon the brain *always does exist.*

Mr. C. next ſtates, that he was aſtoniſhed to hear me declare ſo poſitively, after a firſt ſight of the patient, that there was

apoplexy, would be *well founded.* But thanks to an all-wiſe and bountiful Diſpoſer and Director of theſe things, no part of the animal machine is void in this very neceſſary appendage to the vaſcular ſyſtem, without the aid of which ſudden death would be hourly, nay minutely occuring, and the univerſe be ſpeedily depopulated.

was confiderable extravafation. Now, I believe, I did *not* fay *confiderable*; though, if I did, the fymptoms which Mr. P. told me exifted till *after she was bled*, were fully equal to fupport *such an opinion*. But, as I find none of the parties prefent except Mr. C. heard the word *confiderable* made ufe of, *is it not possible* he may be miftaken?—I do recollect ufing the words extravafation and exudation; but Mr. C. declares thefe two words convey a diftinction without a difference. But here Mr. C. unfortunately again evinces a great want of difcrimination, and I fhall trouble myfelf to explain it. The term extravafation ought to be ufed when the blood or fluid efcapes through a rupture in the coats of the veffels; and the term exudation when the fluid is forced through the exhalants. In the firft, red blood will be effufed; in the latter, ferum or lymph; and this forms the only true diftinction between fanguineous and ferous Apoplexy. A doctrine which certainly ought to be clearly defined and underftood by every practitioner, as many valuable lives, I am now convinced, have been loft by the want of a perfectly clear idea of this diftinction; by fuppofing that bleeding in the ferous Apoplexy is ufelefs, if not injurious.* But, in truth, the operation of bleeding is indifpenfably neceffary in Apoplexy, whether the compreffing fluid is blood or ferum; and, confequently, whether the Apoplexy is *sanguineous* or *serous*. And it is now my determination, from feeing the danger of defective difcrimination in *these cases*, the moment I have a little leifure, to write upon this fubject in fuch plain and intelligible terms, as to enable the young and moft inexperienced practitioner, when called upon in fuch emergencies, to act with promptnefs and decifion, and with confidence in himfelf till more experienced affiftance can be procured; as a few minutes delay, in fuch inftances, might prove fatal.

Mr. C. now ftates, that I faid the beft anatomifts were of different opinions. My declaration was, that the *best had differed* upon the fubject. I meant formerly; for I believe at the *present moment*, there is only one opinion on the fubject, except that of Mr. Crowfoot's, that *real Apoplexy* is caufed by compreffion of the brain, and always, when the fkull is *not* fractured, by the effufion of blood or ferum.

Mr. C. in his Notes, introduces a fuccefsful cafe, in fupport of his favourite doctrine, that extravafation is not the caufe of Apoplexy: That a lady attacked with Apoplexy, where the fymptoms

* From what I have lately heard from good authority, this was the cafe with the father of the prefent Lord Rous; who, had he been bled fooner, would affuredly have had a better chance of relief.

ſymptoms were exactly ſimilar to thoſe of this patient, to whoſe aid a Mr. D. was called, and that he *cured* this patient by *vomits.* But is it neceſſary to remind Mr. C. that ſucceſs is by no means a certain criterion of the propriety of a particular remedy, eſpecially when others of a leſs doubtful nature are uſed at the ſame time? Or that Nature in this, as well as in other critical ſituations, ſometimes happily triumphs over the *remedy* as well as the diſeaſe? Otherwiſe, how can we account for the number of miraculous cures, and hair-breadth eſcapes ſo frequently attributed to ſome of the moſt inſignificant if not injudicious means? In ſhort, may we not with propriety add, that in *this instance*, if vomiting was *solely* depended upon, that ſhe recovered in defiance of the Doctor, and that the vis medicatrix naturæ was too powerful to be ſubdued?

I cannot, however, conclude without giving my Readers a Copy of the *ingenious Paper* alluded to by Mr. C. and inſerted in his Statement, and from which he appears to have derived his Theory and Practice in the Cure of Apoplexy. It is inculcated by Dr. Fothergill, in the paper before referred to, that the obvious cauſe of Apoplexy, in the greater number of caſes, *arises from the stomach*, and therefore the affection in the head is ſymptomatic; and in conformity with this doctrine, he ſays, we are, as ſpeedily as poſſible, to endeavour to remove the load by emetics, purgatives, &c. We need not, ſays he, be under much reſtraint in the uſe of theſe medicines, till thorough evacuations are produced; the ſtimulus excited in the ſtomach, and the room provided by a freer circulation, are almoſt alike beneficial, and without diminiſhing the patient's ſtrength, make way for his recovery. I am of opinion, ſays the ſame gentleman, that we ſhould probably render the moſt effectual aid by endeavouring, in all caſes, to procure a plentiful diſcharge from the ſtomach and bowels; as by theſe revulſions the head is ever more relieved from plenitude, and that without the weakening or interruption of other efforts of Nature to relieve herſelf.

Upon the merits of this paper, allow me to aſk Mr. C. how the brain can be compreſſed by a foul ſtomach? Or does he believe that the action of vomiting will not determine more blood to the head? And does Mr. C. really think that ſtimulating the ſtomach by emetics will produce a *freer circulation* than emptying the *blood vessels themselves?* And farther, that plenitude is more expeditiouſly obviated by *vomiting* than *bleeding?* I can only ſay, that if the late Dr. F's other works and practice were upon a par with this paper on Apoplexy, he never would have gained that celebrity in his profeſſion he once poſſeſſed.

I have

I have now finiſhed my Critique upon Mr. C's Paper, and, I truſt, without either virulence, acrimony, or ill nature; at leaſt, it has been my anxious wiſh ſo to do, and to act with that liberality and candour, on this and every other occaſion, which is aſſuredly due from one profeſſor of the ſcience to another, be his reſpective department in that profeſſion what it may; and if by means of this little colliſion of ſentiment between Mr. C. and myſelf, a ſpark of real information ſhould unexpectedly be elicited, leading to a more ſcientific and rational plan of practice in Apoplexy, I ſhall feel myſelf much gratified, and amply rewarded for my trouble, by having contributed my mite towards the reduction of the long liſt of evils human nature is, alas! ſubjected to.

R. LANGSLOW.

Halesworth, Suffolk, Sept. 26, 1801.

N. B. I did not ſee Mr. C's Statement till late in the day of the 23d inſtant, and had not a moment's reſpite from profeſſional fatigue till this day, (26 Sept. 1801.)

CRITICAL RETROSPECT

OF

MEDICAL AND PHYSICAL LITERATURE.

Ueber Die Zweckmässigste Einrichtung der Feld Hospitäler; i. e. On the moſt proper Arrangement of Field Hoſpitals, by Dr. G. P. MICHÆLIS, late Field Phyſician in the Electoral Brunſwick Lunebourg Services; with an engraving. Gottingen, 1801, Dieterich, pp. 52 , in octavo.

THE author of the preſent work has a juſt claim to the approbation of the community, for having undertaken the difficult taſk of thoroughly examining the condition of field hoſpitals, of pointing out the defects to which they are ſtill expoſed, and of making ſuch propoſals, with reſpect to their improvement, as are fit for being properly executed; in which attempt he has perfectly ſucceeded, ſhowing, at the ſame time, a moſt accurate knowledge of the ſtate of military hoſpitals; and we have no doubt but this work will prove of great ſervice to military phyſicians. Beſides an introduction, the materials of the work are contained in *three* ſections. In the introduction, the author juſtly reprehends the neglect which inſtitutions of that kind generally experience in time of peace, where

where no meafures are taken, no preparations made, by which, at the commencement of a war, hofpitals might be immediately arranged, and phyficians provided; indeed, it frequently happens, that the plan for the maintenance of the fick and wounded is not even fettled when the army keeps the field, which circumftance, however difadvantageous to the intereft of the ftate, is witneffed in the hiftory of the prefent war. He farther difcuffes, whether it contributes to the benefit of the hofpital to unite medicine and furgery in one perfon, or whether it is better to have thefe two branches of the healing art exercifed by feparate perfons? the laft of which the author is inclined to prefer. But upon nearer confideration it will be found lefs practicable, becaufe the hofpitals being fometimes only filled with fick people, at other times with wounded, an equal number of phyficians and of furgeons would be required; a circumftance which, from the great additional expence of maintaining a double body of men, would prove extremely burdenfome to the ftate, not being of proportional utility, particularly as we do not fee, why a perfon fhould not by proper application become equally fkilled in medicine as well as in furgery. The author alfo fpeaks of the rank that ought to be affigned to army furgeons, and of a proper drefs, to make them more refpected than they generally are.

First Section. *Of the Arrangement of Hospitals.* Here he fhows the advantage of regimental hofpitals, in which the patients are in general better provided for than in field hofpitals, where the number of patients frequently increafe to fuch a degree, as to make it impoffible to pay proper attention to each individual. The fituation of an army in the field will however rarely allow the eftablifhment of feparate hofpitals, neither regimental nor thofe which, according to the propofal of the author, fhould be eftablifhed, about a mile diftant from the camp, for cafes of emergency; becaufe, when the army is in fight of the enemy, and expofed to tumultary movements, retreats, &c. an hofpital at fuch a place is frequently difturbed, and fubject to unavoidable mifchief and different vexations; moreover, it is known that in thofe cafes the number of waggons is hardly fufficient to convey the wounded, how then fhould the fick in the hofpitals be brought away? The advantages, however, that refult from regimental hofpitals, &c. ought not to be difregarded in winter quarters, or at the time of an armiftice. For the better conveyance of the fick, the author propofes that each regiment fhould be furnifhed with two waggons, each being large enough for containing eight men.—*On common Hospitals*, which he divides into *three* claffes, viz. ambulatory hofpitals, depot hofpitals, and chief hofpitals.—*On the Situation and Use of the Chief Hospital.*—It fhould be fituated at a proper diftance from the army; and each feparate army, detached from the great army, fhould have a chief hofpital of its own, capable of following it in the different movements; each fortified place fhould likewife be provided with a chief hofpital. The fecurity of the places for the eftablifhment of chief hofpitals, is beft known and

ascertained by the chief general. Considerable towns or cities are best calculated for the establishment of chief hospitals; but less proper for hospitals are fortresses exposed to a siege. The chief hospital should not be above six German miles distant from the ambulatory hospitals; the patients not too much crouded in any hospital, and, if possible, placed near a river or canal, whereby the conveyance of the patients becomes more convenient and less expensive. Lingering patients, &c. ought to be sent back to the garrison hospitals. Mr. Michælis rejects the separation of the patients according to their respective forms of diseases; and he expresses the humane wish, that the refuge of the sick and wounded might be declared neutral; but to such a degree of humanity in wars we are not yet arrived.—*On the Use and Situation of ambulatory Hospitals.* They are destined for the reception of the sick and wounded from the regiments; but no patients ought to be kept there too long, excepting those who are dangerously ill, in order to have sufficient room for the new arrivals; their situation ought to be as near behind the army as possible, and for better communication with the chief hospital, near a river or canal, &c.—*On the Depot Hospitals.*—*On the Hospitals in besieged Towns.*—*On the Choice of the Building for an Hospital.*—*On the inner Disposition of an Hospital.*—*On the Wards.*—*On the Means of renewing and correcting the Air in the Wards.* A great many proposals have been made for that purpose, but for the most part too compound and artificial to be properly executed in field hospitals, where the most possible simplicity should be observed, on account of their being exposed to continual movement. Cleanliness is the first requisite for preventing the air being corrupted, and if that be properly attended to, the opening of the doors and windows in the morning, noon, and before sun-set, is undoubtedly the most simple and best ventilator. It is always desirable to place very weak patients in the upper story, pure air having there a freer accefs. Mr. Michælis rejects upon good grounds, fumigations with resinous and scented substances for the purpose of purifying the air, as it is more corrupted than corrected by them. The burning of gun-powder, though recommended by the author, seems to be exceptionable, as it only imparts a salutary motion to the air. The evaporation of muriatic acid, so much praised by some, does not answer the purpose, because it frequently occasioned a vehement coughing to the patients. For renewing the air in winter time the author proposes stoves with Mr. Salmon's tubes; but it may be suggested, that all such proposals can only be executed in field hospitals, more settled at a place than they are frequently allowed.—*On the Position of the Bedsteads.* They ought not to be too closely put together.—*On the Apartments for the Reception and Cleansing of the Patients.* At the entrance of the hospitals one or two spacious apartments should be appointed, where the patients are to be received and cleaned, where they ought to change their uniforms with the dresses of the hospital, and whence they are to be distributed into the different wards by the attending physicians.—*On the Apartment for the Subaltern Officer*

upon Duty.—On the proper Place for Privies.—On the Tea Kitchen.—On the Dead's Chamber.—On the Apartments for the Operations, Bandages, and Surgeons.—On the Place for the Apothecary's Shop.—On the Kitchen.—On the Buildings for the Magazine of the Hospital.—On the Lodgings of the Persons attending the Hospital. All the persons belonging to the hospital ought to live in it, and not have lodgings at some distance from the hospital.—*On the Buildings for the recovering Persons.* Proper buildings at some distance from the hospital ought to be appointed for the persons recovering, and they ought to be kept under military and medical inspection.—*On the Utensils belonging to the Hospitals.—On the Bedsteads and similar Furniture.*—The author describes here the ill consequences of bedding the patients on the ground; the bedsteads, however, ought to be as simple as possible, for preventing them becoming an incumbrance to the army.—*On the Straw Sacks.*—They ought to be kept clean, and the hospital provided with a sufficient quantity of them; and for 1000 patients, 2000 or 2500 straw sacks ought to be provided. The author rejects the use of quilts stuffed with horse or cow-hair, as being reservoirs for every kind of miasmata, and particularly as contributing to the propagation of the itch.—*On Bed-cloths and Coverlets.—On Bed Skreens.* Only proper for garrison hospitals.—*On the Dress of the Patients.* The patients ought to be provided immediately after entrance into the hospital with a dress belonging to the hospital, for which he proposes trousers and short coats, made of strong linen or fustian. A sufficient stock of shirts and stockings should likewise be provided for in field hospitals.—*On the Vessels for Eating and Drinking.* A plate, a bason, and a trikel, with a spoon of tin or white iron.—*On the Utensils for Medical Use.—On other Furniture necessary to the Patient.—On Close-stools.—On the urinary Vessels, and different other Furniture belonging to an Hospital.—On the Train and Carriages belonging to an Hospital.—On the Carriages for transporting the patients.* It is to be regretted that except the English and Russian, no other armies are provided with carriages properly calculated for the conveyance of the sick and wounded, however great the advantages are which hence result for the welfare of the patients. It is indeed shocking for a feeling heart to see the poor sick and wounded warriors dragged along on open waggons, that are taken from the peasants on the way, in which they are exposed for days to every sort of weather. The author highly recommends the carriages introduced in the English army for the conveyance of the sick, of which a description and plan are added.

SECOND SECTION. *On the Maintenance of the Patients.* The nourishment or food of the patients deserves particular attention, as it is frequently sufficient by itself to restore health, if it is properly chosen and well prepared.—*On the Victuals for the Patients.* The author reprehends here the custom of always offering animal food to patients, particularly to those who labour under a putrid state; he particularly recommends the diet observed in the Austrian and French hospitals.—*On Bread and Meat.* He prefers beef, and

and for weaker patients veal, above the reſt.—*On Vegetable Food.*—*On the Breakfast.* For which he recommends warm beer with ſome white bread, and for weaker patients with the yolk of an egg.—*On Supper.* It ought to conſiſt of gruel of flour and bread.—*On the Drink.* The author greatly rejects the decoctions and infuſions introduced into many hoſpitals, and promiſcuouſly given to every patient; he prefers pure water, which he recomends to be cooled with ſnow and ice in putrid and nervous fevers, a practice that is in moſt caſes very exceptionable. The mixture of vinegar and water, which the author is inclined to recommend as the common beverage in hoſpitals, is liable to many objections.—*On Tobacco.*—*On the Rations. On the Advantages in purchasing the Neceſsaries and Provisions for an Hospital.*—*On the washing of the Linen of the Patients.*—*On the Transport of the Patients into the Hospital, and their Reception.*—*On the Means of making the Transport less difficult.*—*On the Provisions during the Transport.*—*On the Convalescents.*—*On the Invalids.*—*On the Burial of the Dead.* Mr. M. propoſes to take the dead, with the ſtraw ſacks on which they died, immediately out of the wards, but to place them in a proper apartment that is heated in winter, in which they ought to be obſerved from time to time, and not to bury them before they have been laying there about twenty-four hours, and inſpected by a phyſician.

THIRD SECTION. *On the Persons belonging to the Hospital, and on the Direction.* The affairs of the hoſpitals ſhould not be conducted by a ſingle man, on account of their being of ſo different a nature, that it is impoſſible one man ſhould be able to make proper regulations, which require an accurate knowledge, œconomical as well as medical. The direction of the hoſpitals ſhould therefore be intruſted to a committee.—*On the Choice of the Persons belonging to the Direction.*—*On the first Officer and his Qualities.*—*On the first Physician and Surgeon, and their respective Qualities.*—*On the Choice of the first Steward and his Qualities.*—*On the Choice of the rest of Persons in the Service of the Hospital.*—*On the Duties of the Persons belonging to the Direction of the Hospital.*—*On the Duties of the rest.*—*On the Means of obtaining good Subaltern Surgeons, and on their Medical Education.* A paragraph containing ſeveral propoſals worthy the attention of the public. Such are the contents of a book, which every where diſplays the profoundeſt knowledge and experience of the author, in the actual ſtate of military hoſpitals, and which will afford the greateſt ſatisfaction to all who conſult it.

MEDICAL AND PHYSICAL INTELLIGENCE.

[FOREIGN AND DOMESTIC.]

On the Nature and Generation of the earthy Particles in different Kinds of indigenous Corn.

The Royal Pruſſian Academy of Sciences at Berlin, a few months ago, propoſed the following prize-queſtion:

" Of what kind are the terreous particles that are found by a " chemical analyſis in the different ſorts of indigenous corn? Do " they enter into them as ſuch, or are they produced in them by " the *vis vitalis* and the action of the organs of vegetation?"

The Academy has ſince publiſhed two papers, that were delivered upon the ſubject; one of which, by Mr. Schrader, Apothecary at Berlin, deſerves our notice. —The firſt queſtion he has endeavoured to anſwer by ſeveral chemical analyſis made for the purpoſe. For decompoſing the different grains into their earthy particles, *combuſtion* and *calcination*, or *incineration*, was thought the moſt proper and convenient method. The aſhes obtained in this way were very pure, and without any heterogeneous mixture; and being afterwards farther treated with chemical *reagency*, in order to extract their earthy particles, the following reſults were found:

32 ounces of oats afforded:

Siliceous earth — — —	$144\frac{2}{10}$ grains.
Carbonat of lime — — —	$33\frac{15}{20}$
Carbonat of magneſia — —	$33\frac{9}{10}$
Aluminous earth — — —	$4\frac{5}{10}$
Manganeſe in the ſtate of oxyd —	$4\frac{5}{10}$
Iron in the ſtate of Pruſſian blue —	$4\frac{5}{10}$

32 ounces of rye afforded:

Siliceous earth — — —	$15\frac{6}{10}$ grains.
Carbonat of lime — — —	$13\frac{4}{10}$
Carbonat of magneſia — —	$14\frac{2}{10}$
Aluminous earth — — —	$1\frac{4}{10}$
Manganeſe in the ſtate of oxyd —	$3\frac{2}{10}$
Iron in the ſtate of Pruſſian blue —	$0\frac{9}{10}$

32 ounces of barley afforded:

Siliceous earth — — —	$66\frac{7}{10}$ grains.
Carbonat of lime — — —	$24\frac{8}{10}$
Carbonat of magneſia — —	$25\frac{3}{10}$
Manganeſe in the ſtate of oxyd —	$6\frac{7}{10}$
Iron in the ſtate of Pruſſian blue —	$3\frac{8}{10}$

32 ounces

32 ounces of wheat afforded:

Siliceous earth	—	—	—	$13\frac{2}{10}$	grains.
Carbonat of lime	—	—	—	$12\frac{6}{10}$	
Carbonat of magnesia		—	—	$13\frac{4}{10}$	
Oxyd of manganese	—	—	—	5	
Aluminous earth	—	—	—	$0\frac{6}{10}$	
Iron in the state of Prussian blue			—	$2\frac{5}{10}$	

32 ounces of rye straw afforded:

Siliceous earth	—	—	—	152	grains.
Carbonat of lime	—	—	—	$46\frac{2}{10}$	
Carbonat of magnesia		—	—	$28\frac{2}{10}$	
Aluminous earth	—	—	—	$3\frac{2}{10}$	
Oxyd of manganese	—	—	—	$6\frac{8}{10}$	
Iron in the state of Prussian blue			—	$2\frac{4}{10}$	

The second part of the question is subject to more difficulties. Mr. Schrader thought to ascertain it best by letting those vegetables grow in media, which were quite deprived of all earthy particles; and by inquiring afterwards whether they contained earths, or by comparing their constituents with the constituents of those that had been growing in earth. For this purpose, therefore, Mr. Schrader employed, after having tried several other substances, the sublimed sulphur, into which, after being washed with distilled water, he sowed rye, because this seemed to thrive best of all, and a little barley. The vessels which he used were of glass or porcelaine. He exposed them to free air, and to the sun in a garden, where no dust could come to them; and, in order to secure them still better from its access, the vessels were put under glass frames, which were only a little opened. For watering them he used distilled water, impregnated with carbonic acid. The season in which the experiment was made being already much advanced, he was obliged to let the plants continue to grow till near the end of autumn. Some of the plants had reached the height of 12 to 14 inches, and several had produced small ears, in which, however, the parts of fructification could be clearly distinguished. There were in all about 28 plants of rye, and 12 of barley, which weighed together about 108 grains. After being reduced to cinder in a silver crucible, they were burned with saltpetre, in which process two grains of earthy particles were obtained. 108 grains of rye straw gave, when burned with saltpetre, 2 grains of earth; and 28 corns of rye, and 12 of barley, $\frac{5}{10}$ grains of earth. By these experiments it was therefore ascertained, that 40 plants produced in sulphur, contained an equal quantity of earthy particles with those which had grown in earth. Mr. Schrader enquired now, by another analysis, as accurately as it was possible to do with such a small quantity, if the earthy particles obtained from those plants were of the same kind as the plants which had thriven in common earth, and this was confirmed by his experiments. From these facts it may be justly concluded, that the earthy and metallic particles contained in different species of corn, do not enter into them as such, but are generated in them by the organic action of vegetation.

Change of metallic Bodies by hot Lava. When the town *Terre del Greco*, near Naples, had the misfortune of being deftroyed and covered with lava, on clearing the place again, feveral metallic inftruments were found to have undergone a curious change. Prof. Klaproth, of Berlin, had an opportunity of receiving feveral productions of that kind, and, amongft others, the fragment of a bell, in which the two metals that compofe the bell metal, were entirely feparated, the tin having difappeared, while the copper had the appearance of red copper ore, covered with a ftratum of pure copper; the lava furrounding it was intermixed with dark grey fteel coloured cryftals, of the appearance of copper glofs ore and red copper ore. On the furface of another bell, a group of cryftals had formed itfelf, perfectly fimilar to folid copper glofs ore, in the fhape of quadrangular pointed columns. He alfo received the lower end of the barrel of a gun, together with the lock; the iron of which had entirely loft its metallic ftate, being changed into a kind of martial ethiops, whereby the fize of the whole had confiderably increafed, almoft to more than three times its former fize. When broke, it had a metallic glofs of a blackifh colour, partaking a little of red; the texture was coarfe and fomewhat fcaly. The fpecific weight was confiderably diminifhed, while the abfolute weight had become much greater, the former being only 4,848, whereas the fpecific weight of the pure metallic iron amounts to 7,783 = 7,800. In order to determine the increafe of the abfolute weight, or the quantity of admixed oxygen, 100 parts of iron were diffolved in muriatic acid, and afterwards precipitated. The precipitation being edulcorated and dried, was changed into martial ethiops by heating it with a few drops of olive oil, by which means it was found to have increafed by 25 per cent. which, confequently is the fame cafe with the above barrel. This augmentation of weight is undoubtedly produced by the oxygen communicated to the iron from the decompofed vapours.

Citizen Vauquelin has analyfed another foffil, remarkable for the confiderable quantity of arfenic acid which it contains, and therefore ftiled by Mr. *Karften, Pharmacolith.* It is found in the country of Turftenberg in fmall, white, hair-like prifmatic cryftals, generally occuring in clufters or heaps, and their fpecific weight is = 2,640. The chief particles of thefe curious cryftals is a combination of lime with arfenic acid, or an arfeniat of lime, mixed with fome adventitious particles, as cobalt and filiceous earth, in the following proportion:

Arfenic acid — —	46, 50
Lime — — —	23,
Oxyd of cobalt — —	0, 50
Siliceous earth — —	6,
Water — — —	22, 46
	98, 50

The

The proportion of the essential particles after the substraction of the adventitious ones is,

Arsenic acid	— —	50, 54
Lime —	— —	25,
Water —	— —	24, 46
		100

The great use of blisters applied on the shaved head in some cases of delirium, is sufficiently known to practitioners, but a remarkable instance of that kind is recorded in *Hufeland's* useful Journal for Practical Medicine, Vol. XI. No. IV. The patient perfectly recovered his senses the next morning, after a blister had been put on the shaved head the night before. The excoriated places were kept open with unguent. basilic. and pulvis cantharid. for ten days; and when the patient seemed perfectly reasonable, the wound was dressed with ceratum Saturni, in order to heal it up, which however, having hardly been effected, the patient was again seized with delirious fits, which increased to such a degree, that recourse was had to another blister, which being kept in suppuration for three weeks, the patient was entirely restored to health. Besides the blisters, proper internal remedies had been employed. The editor of the above Journal relates, in addition to this, a case of apoplexy, in which the application of an actual cautery proved most efficacious. "A lady having been taken with an apopletic fit, lay in a soporous state, against which all possible remedies had been employed in vain by the attending physician, when a friend of the patient recommended to apply paper burnt to tinder on the shaved head. This had hardly been done, when the patient arose with vehemence, tore off the cap that had caught fire, and cried with a strong voice, "Will you burn me!" Against the first intention, the cap had been set on fire by some glowing points in the tinder that were overlooked; and though the skin on the head of the patient was considerably burnt, the patient had the advantage of being perfectly recovered.

Amongst the antagonists that have arose against the Vaccine Inoculation in Germany, none seems to excite so much the attention of the public, as Dr. *Marcus Herz* of Berlin, one of the most respectable physicians of Germany, and justly celebrated by several of his publications. This gentleman has lately published a memoir in *Hufeland's* Medical Journal, Vol. XII. No. I. which is also separately to be had, entitled, "*Dr. Marcus Herz to Dr. Dohmeyer*, physician to his Royal Highness Prince Augustus of England, *on the Brutal Inoculation, and its comparison with the Human Inoculation*, (in German) with the following motto prefixed to it."

Homo sum, non humana a me aliena puto.

The ingenious author of this treatise has exhausted every argument that may theoretically be suggested against introducing a brutal poison into the human constitution, and reasoned on this subject with such acuteness and ingenuity, as might be expected from so philoso-

philosophical a physician. The evidence of facts, however, on which the great use of Vaccine Inoculation is grounded, is not so easily to be subverted by the most subtle reasoning; and though it may contribute to draw the attention of physicians on several subjects attending that great discovery, and fix several points in view hitherto neglected, yet it is by no means calculated to make us desist from farther pursuing and acertaining an object of such extensive advantage for the benefit of the community, and which seems, by the numerous experiments it has undergone, to have reached the summit of certainty and truth. As we purpose to lay before our readers, in a future Number of this Journal, a full account of all publications that have appeared on the Vaccine Inoculation in Germany, we forbear at present to state any thing farther respecting this subject, and only beg leave to mention, that several pamphlets have been purposely written, in order to oppose the more subtle than true argumentation of *Dr. Herz*.

NEW MEDICAL PUBLICATIONS.

Hygëia, a Series of Essays on Health, on a Plan entirely popular. By THOMAS BEDDOES, M. D. (to be completed in Twelve or Sixteen Monthly Numbers,) 2s. Phillips.

A Treatise on the Cow-pox, containing the History of Vaccine Inoculation, and an Account of the various Publications which have appeared on that Subject in Great Britain, and other Parts of the World. By JOHN RING, Part I. 8s. boards. Johnson.

Cases of Phthisis Pulmonalis, successfully treated upon the Tonic Plan; with Introductory Observations. By C. PEARS.

The Modern Practice of Physic, 2 vol. 8vo. By ROBERT THOMAS, M. D.

To CORRESPONDENTS.

The unexampled influx of Original Communications this month, has obliged us to postpone the Account of English Books, and part of the Foreign Literature, as well as several Original Papers.

Communications are received from Drs. Moises, Noehden, and Veiusseux; Messrs. Hull, Cooke, Observator, M. D. and D. T.

ERRATA.

Page 218, l. 20, to W. B. Bayley, *add* M. D.
Page 459, l. 20, *for* temperance, *read* temperature.
Page 451, l. 41, *for* salutary, *read* solitary.

END OF VOL. VI.

INDEX.

Page.

ABILDGAARD, Prof. experiments by, to ascertain the quantity of carbon in the blood 192
———— ———— on the oxydation of blood as the effect of respiration 373
Abscess, an extraordinary case of 293
Acetic Ether, the good effects of, in rheumatism and the gout 273
Acid, on the use of it in fever 87
—— experiments on the muriatic 475
—— on the internal use of phosphoric 92
Acids, Dr. Beddoes's plan for trying 105
Acoroides, or Botany-bay gum, uses of in complaints of the intestines 429
Acoustic tubes, examination of (with a plate) 75
Adams, Dr. on sending consumptive patients to Madeira 415
——— on aneurism 535
Address to the poor on vaccine inoculation 115
Ægypt, on the endemic ophthalmia of 357
Æthiop's antimonialis, a short and easy mode of preparing 15
Affusion cold, in fever, Dr. Rogers on 106
———— ———— Dr. Currie on 381
Agust earth, description of, a new discovery so termed by Prof. Tromsdorff 473
Air, experiments on land and sea 203, 359
Anatomical remarks on the ornithorynchus paradoxus 73
Anatomical preparations, method of preserving 274
Ancylosis incompleta, relieved by warm oil 71
Aneurism, Dr. Adams's case of 535
Angina pectoris, two cases of 320
——— polyposa spasmodica, description of 94
Animal chemistry, remarks on 416
——— impregnation, on the proximate cause of 254
Animals, on the o[illegible] exhaled by living 339, 439
Animation, essay on suspended 116
———— suspended, review of Dr. Sturve's treatise on 8

Page.

Antimonium Tartarisatum, its use in preventing bilious fever 311
Apparatus, descriptive of the resuscitative 84
Apoplexy, Mr. Crowfoot's statement of a case of 549
———— answer to the same 552
Argillaceous earth, how analysed 373
Arnemann's, Prof. examination of acoustic tubes 75
Arsenic, on the use of in cancer 31
Arteries, on the cause of their being found empty after death 379
Arthritic pains, relieved by the vapours of the hepatic gas 92
Arthritis, description and cure of 454
Asthenic ulcers, cured by caustic 24
Atkinson's, Mr. account of an extraordinary cancer (with a plate) 448
Bacon, Lord, his merit as a discoverer 409
Barry, Dr. on vaccina 423
Parytes, description of and how analysed 374
——— method of preparing the muriated without kali 467
Bath, account of the diseases in the dispensary at 195, 364, 388, 491
Batty, Dr. his lectures announced 380
Bayley, Mr. on a schirrhous pancreas as a cause of the jaundice 218
Beddoes's, Dr. questions concerning the children of the poor 24
——— plan for trying acids 165
——— announcement of his popular essays 362
Bell's, Mr. system of dissections, reviewed 80
Belladonna, on the use of in hydrophobia 93
———— ———— in extracing the cataract 352
———— ———— in the scarlet fever 368
Benevolent Medical Society, resolutions of 113
Bennett's, Mr. case of an abscess 293
Berkeley's, Lord, letter to Dr. Jenner on the cow pox 105
Berthollet, Cit. on eudiometry 376
———— experiments by, on the muriatic acid 475

INDEX.

Page.
Bestucheff, method of preparing the nervous tincture of 474
Bichat, Cit. on the arteries after death 379
——— ——— membranes 449
Bilious fever, on the prevention of, by antimonium tartarizatum 311
Birds, on the organ of the voice, of 279
Bishop, Mr on suspended animation 315
Black, Dr. on the chemical discoveries of 409
Blair, Mr. on œsophagotomy (with plate) 97
——— on cancerous hydatids 192
——— his proposals for a history of hospitals 303
——— his lectures announced 476
Blane's, Dr. communication on the ophthalmia of Ægypt 357
Bliss's, Mr. observations on the Kilburn waters 332
Blisters, their use in suppression of urine 526
Blood, experiments to ascertain the quantity of carbon in the 192
——— examination of the colouring of the 469
——— on the vitality of the 513
Blount's, Mr. letters on the cow pox 114
Blumenbach, Dr. on the ornithorynchus paradoxus 73
Bobba, Dr. on the cause of rickets 191
Boeckmann's, Mr. experiments on the influence of light on phosphorus 374
Bones, Prof. Isenflamm, on the marrow of the 470
Books, Medical, Critical Retrospect of
Wrisberg's medical treatises, 77. Dr. Posewitz's journal for medicine, 79. Prof. Wiedemann's archives for zoology and zootomy, ib. Bell's system of dissections, 80. Dr. Struve on suspended animation, 83. Dr. Reich on fever, 86 Reece's medical and chirurgical pharmacopœia, 88. Dr. Sutton on pulmonary consumption, 89. Dr. Hufeland's system of practical medicine, 170 Corvissart's &c. journal of medicine, 174. Le Febure's researches, &c 175. Prof. Hildebrand's pocket-book for health, *ib.* Dr. Thomson's family physician, 176. Dr. Nisbet's practical treatise on diet, 178. Geohegan on the venereal disease, 180. Dr. Kilian's genius of health and life, 253. Dr. Osiander's treatise on the cow pox, *ib.* Pulley on animal impregnation, 254. Dr. Wilson on febrile diseases, 255, 365.

Page.
Bouillon Lagranges, his method of preparing syrup of quicksilver 15
Boutflower, Mr. on opiate friction 433
Bouttatz, D^r. his account of an extraordinary tumour in the eye (with plates) 289
——— ——— cases of catalepsy and epilepsy 425
——— ——— question to, by Dr. Kinglake 461
Bradley, Dr. letter to, from Dr. Clarke 95
——— his lectures announced 380
Bristol, account of diseases in the dispensary at 4, 112, 196, 364, 388, 491
Brugnatelli, Prof. on the transition of tartarous, into saccharic acid 475
Brush, description of Molwitz's metallic (with a plate) 91
Buboes, on the use of snails in obstinate 93
——— description of the pestilential 260
Cachexy, description and method of treating of 376
Cæsarean operation, a case of, by Mr. Wood 346
Calcareous earth, how analysed 374
Calculus, account of an extraordinary (with a plate) 391
Cambridge (North America) meteorological register in the university of 328
Camphor, Mr. Ring on the anodyne use of 155
Cancer, on the use of arsenic in 31
——— account of an extraordinary (with a plate) 448
Cancerous affections, Mr. Rickards on 509
——— hydatids, observations on 193
Carbon, experiments to ascertain the quantity of it in the blood 192
Carcinoma, description of 193
Carlisle's, Mr. observations on the failure of union in simple fractures 201
——— remarks on ditto, by Mr. Wilkinson 397
——— Mr. his reply to Mr. Wilkinson 477
Carpue's, Mr. lectures announced 287
Cat, experiment on the chyle of a 200
Catalepsy, cases of, by Dr Bouttatz 425
Cataract, on the use of Belladonna in the 352
Catarrhous complaints, the extractum cardui benedicti, recommended in 390
Caustic, on the use of, in ulcers 23

INDEX.

Page.

Chamberlaine, Mr. on the uses of the acoroides in complaints of the intestines 429
Chamomile, the juice of, recommended in scarlet fever 369
Chaussier's, Cit. method of preserving anatomical preparations 274
Chemical analysis of vaccine virus 395
Chemistry, on animal 416
Chenevix, Mr. on James's powder 517
Chevalier's, Mr. lectures announced 287, 389
Children, queries respecting those of the poor, by Dr. Beddoes 25
Chinese, their knowlege more antient than that of the Europeans 408
Chyle, how produced from chymus 200
Chymus and Chylus, on the nature of 198
Clarke's, Dr. letter to Dr. Bradley, on the cow pox 95
——— lectures announced 286
Clement, Mr. on vaccine inoculation 4
Clutterbuck's, Mr. case of erysipelas 13
Cold water, its use in cases of old ulcers 19
——— and ice, on the uses of 105
——— on the affusion of 381
Colour, enquiry concerning that of the blood 469
Conception, Mr. Hope's case of an extra-uterine 360
Consumption, review of Dr. Sutton's considerations on pulmonary 89
——— the seeds of phellandrium aquaticum recommended for 95
——— on the climate of Madeira, as beneficial in 415
Convulsions, on those which affect pregnant women 280
Coquart, Cit. on the effects of lightning and electricity in gonorrhœa 274
Cork, on the analysis of 276
Correspondents, answers to 96, 192, 380, 476
Cortex Cariboeus, use of in rheumatic complaints 376
Cow-pox, Dr. Winterbottom's observations on 46
——— Dr. Waterhouse on 64
——— Mr. Jefferson's letter to Dr. Waterhouse on 69
——— Dr. Jenner's letter on inoculating dogs with 95
——— Dr. Clarke's letter to Dr. Bradley on *ib.*
——— Lord Berkeley's letter to Dr. Jenner on 105
——— Mr. Blount on 114
——— Mr. Dennett on 237

Page.

Cow-pox, Dr. Osiander's treatise on reviewed 253
——— in the sixth century 379
——— Mr. Ring's treatise on, announced 476
Cox's, Mr. account of a singular affection of the eyelids 393
Coxe, Dr. on the opium obtained from lettuce 396
Creaser, Mr. on spurious vaccine 326
——— chemical analysis of vaccine virus by 394
Crichton's, Dr. case of oedema fugax 26
——— cases of an undescribed cause of jaundice 29
——— observations thereon 312, 313
——— lectures announced 285
Crowfoot's, Mr. statement of a case of apoplexy 549
——— answer to the same 552
Cruickshank's, Mr. theory of galvanism 212
Cumming, Mr. on old ulcers 156
Currie, Dr. on the affusion of cold water 381
——— Mr. on the causes of the insalubrity of flat and marshy situations 493
Cutaneous diseases, description and treatment of, by Dr. Willan 297
Cuvier's, Cit. observations on the organ of the voice in birds 279
Davy's, Mr. eudiometer, description of 10
——— experiments on galvanism 214
Demanet, Cit. on the convulsions of pregnant women 280
Dennett, Mr. on the cow-pox 237
Dennison's, Dr. lectures announced 286
Desparanges, Cit. on the effects of acetic ether in rheumatism and the gout 273
Diet, review of Dr. Nisbet's practical treatise on 178
Digitalis purpurea, on the use of, by Mr. Simmons 183
——— the use of in hernia 322
——— in the dropsy 418
Discoveries, a sketch concerning new 407
Diseases in the Bath dispensary, state of 195, 364, 388, 491
——— in the Bristol dispensary 4, 112, 196, 364, 389, 491
——— in an eastern district of London, from the 20th May to the 20th June, 1801 8, 9

INDEX.

Page.
Diseases, account of, in the eastern district of London, from the 20th June to 20th July 111
——— from the 20th July to the 20th August 197
——— from the 20th August to the 20th September 296
——— from the 20th September to the 20th October 389
——— from the 20th October to the 20th November 490
——— in the Westminster hospital, from the 27th April to the 24th June, 1801 9
——— from 24th June to 24th August 193
——— from August 24th to October 26th 391
Dissection, Mr. Syer's case of 507
Dissections, review of Mr. C. Bell's system of 80
Dogs, Dr. Jenner on inoculating 95
—— on the distemper of 315
—— Additions to that paper 466
Dolores post partum, relieved by the oil of sweet almonds 71
Dolor Faciei, on the history and nature of the 153, 243
Dropsy, on the use of the digitalis in 418
Drowned persons, on the wind-pipe in 93
Dyson, Mr. on vaccina 219
Earwax, analysis of the 475
Edinburgh, account of the medical education in the University of 301
——— Statutes of that university on medical degrees 306
Electricity, on the effects of, in gonorrhœa 274
Elongation of the tongue, Cit. Lassus on a morbific 353, 435, 522
Emetics, in pulmonary consumption, recommended 90
Endemic, disease in Norway, described, 18
———Ophthalmia of Ægypt, nature of 357
Epilepsy, observations on 377
———Cases of, by Dr. Bouttatz 425
Erysipelas, Mr. Clutterbuck's case of 131
Essays, announcement of Dr. Beddoes's popular 362
Eudiomiter, description of Mr. Davy's 10
Eudiometry, observations on 376
Experiments on phosphoric acid 92
——— on the Carbon in the blood 192
——— on land and sea air, 203, 359

Page.
Experiments, on galvanism 214
——— on the mesembryanthemum crystallinum 371
——— on the muriatic acid 475
Extra-uterine conception, case of 360
Extractum, cardui benedicti the uses of in catarrhous complaints 370
Eye, account of an extraordinary tumour in the (with plates) 289
Eye-lids, a singular affection of the 393
Fabæ pechurim, the efficacy of 376
—— botanical description of 377
Family physician, Review of Dr. Thomson's 176
Fawssett, Dr. on spurious vaccine 117
Febrile diseases, Review of Dr. Wilson's treatise on 255, 365
Femur, case of lacerated 127
Ferguson, Mr. on the use of cold water in old ulcers 19
Fermor, Mr. on vaccine inoculation 323
——— Dr. Jenner's letter to 325
Fever, on the use of vinegar in 107
—— - on the affusion of cold water in *ib.*
——- Dr. Currie, on the affusion of cold water in 381
Fever, Review of Dr. Reich's treatise on 86
Fever-powder, analysis of Dr. Hahnemann's 475
Flachsland, Dr. case of monstrosity 94
Flat and marshy situations, on the insalubrity of 493
Fletcher, Dr. on a cause of jaundice 312
Forbes, Mr. on the distemper of dogs 314, 466
Fossils, on the water contained in 375
Fossil, analysation of, by Cit. Vaquelin 570
Fourcroy, Cit. his examination of the colouring part of the blood 469
——— on the urinary stones and gravel in men 527
Fracture, cases of by Mr. Carlisle, 201
——— remarks on ditto. by Mr. Wilkinson 397
——— case of, by Mr. Syer 505
——— Mr. Carlisle's reply to Mr. Wilkinson on 477
Gadolinit, Cit. Vauquelin, on the 188
Galvanism, on the progress of 209
——— experiments on 214
Gapper, Mr. on the external use of laudanum in hiccup 17
Garnett, Dr. his lectures announced 192
Geneva, the progress of vaccine inoculation at 281
Geohegan, Mr. on the venereal disease, review of 189

Page.

Goettling, Prof. his analysis of Dr. Hahnemann's fever-powder 475
Gonorrhœa, review of Mr. Geohegan's observations on 180
———— on the effects of lightning and electricity in 277
Goodwin's Mr. case of angina pectoris 320
Gout, the effects of acetic ether in the 273
Gravel in men, observations on by Cit. Fourcroy 527
Greece, practice of midwifery in 151
Grose, Mr. on hæmorrhœa petechialis 233
Hahnemann's, Dr. remedy for the scarlet fever 367
———— fever-powder, analysis of 475
Handel's Dr. remedy for the tooth-ach 189
Hauy's new work on mineralogy, announced 282
Hecker's, Prof. cases of angini polyposa, spasmadocia 94
Hemorrhœa, petechialis, Mr. Grose on 233
Hepatic gas, on the vapours of in arthritic pains 92
Herder, Dr. on the internal use of phosphoric acid 92
Herholdt, Mr. on respiration 462
Hernia, on the use of digitalis in 322
Hernia umbilicalis, Cit. Portal's, account of 278
Herz, Dr. Marcus against vaccine inoculation 571
Hiccup, on the external use of laudanum in 17
Hildebrand's Prof. pocket book for health, reviewed 175
Himley, Prof. on a paralysis of the pupil of the eye 276
Honey-stone, analysis of the 139
Hope, Mr. his case of extra-uterine conception 360
Hospitals, Mr. Blair's proposals for a history of 363
Howard, Mr. on digitatis in the dropsy 418
Hufeland, Prof. on the medical use of oil 69
———— his system of practical medicine reviewed 170
———— on naptha vitrioli &c. in rheumatic and arthritic pains 378
Hull's, Dr. observations on the phlegmatia dolens 51, 135, 220
Humby, Mr. on vaccine inoculation 45
Hutchinson's, Mr. case of lacerated femur 127

Page.

Hydatids, Mr. Blair on cancerous 193
Hydrocephalus, Dr. Schmitt's case of 6
Hydrophobia, on the use of belladonna in 93
Ice, Dr. Rogers on the use of 106
Impregnation, review of Mr. Pulley on animal 254
Indigenous Corn, on the nature and generation of the earthy particles in different kinds of 568
Inoculated cow-pock. Dr. Winterbottom's observations on 46
Inoculation, vaccine Mr. Clement on 4
———— Dr. Paterson on 36
———— Mr. Humby on 45
———— Dr. Jenner on 95, 325
———— Dr. Clarke on 95
———— Address to the poor on 115
———— Mr. Fermor on 323
———— London testimonial in favour of 239
———— Progress of in Geneva 281
———— Dr. Stokes on 386
———— Proposal on the discovery of 422
———— Mr. Ring's remarks on 486
———— Mr. Phythian's cases of 489
Insalubrity of flat and marshy situations, on the causes of 493
Intelligence, medical and physical 568
Isenflamm, Prof. on the marrow of the bones 470
Jackson's Dr. elements of clinical practice announced 380
James's, Dr. powder, Mr. Chenevix on 518
Jaundice, an undescribed cause of a, by Dr. Crichton 29
———— observations on that case 218, 312, 313
Jefferson's, Mr. president letter to Dr. Waterhouse on the cow-pox 69
Jenkinson, Mr. on opiate frictions 432
Jenner, Dr. notice of Mr. Smith's print of 96
———— on inoculating dogs 95
———— letter to from Lord Berkeley 105
———— his reply to Mr. Fermor 325
Karsten, Mr. on the analysis of cork &c. 276
Kilburn-waters, Mr. Vandier's observations on 240, 513
———— Mr. Bliss's observations on 333
Kilian's, Dr. genius of health and life reviewed 253
Killer, Mr. on the use of digitalis in hernia 322
Kine-pock, Dr. Waterhouse on the 64

Page.
Kinglake, Dr. on the cure of arthritic 454
——— his question to Dr. Bouttatz 461
Kobes, Mr. on the fabæ pichurim 377
Koenig, Mr. on the practice of midwifery in Greece 151
Kruger's, Mr. method of preparing concentrated vinegar 474
——— method of preparing the nervous tincture *ib.*
Lampadius, Prof. on the water contained in fossils 375
Land and sea air, experiments on 203, 359
Lassus, Cit. on the hernia umbilicalis 278
——— on the elongation of the tongue 356, 435, 522
Laudanum, on the external use of in hiccup 17
LECTURES ANNOUNCED,
Dr. Garnett's on the theory and practice of medicine, on the animal economy, on chemistry and natural philosophy, 192. at St. Thomas and Guy's hospitals, 284. at St Bartholomew's hospital, *ib.* at the London hospital, 285. at the university of Glawsgow *ib.* at St. Mary-le-bone infirmary *ib.* Dr. Crichton's on medicine and chemistry, *ib.* Dr. Bradley's on the theory and practice of medicine and chemistry, *ib.* and 380. Dr. Osborn's and Dr. Clarke's on the principles and practice of midwifery, and the diseases of women and children, 286. Dr. Batty's on midwifery and the diseases of Women and children, *ib.* and 380. Dr. Dennison and Dr. Squire on the same, *ib.* Mr. Pearson on the principles and practice of surgery, *ib.* Mr Pole on the theory and practice of midwifery &c. *ib.* Mr. Chevalier on the principles and operations of surgery, 287, 380. Mr. Thomas on the principles and practice of surgery, *ib.* Mr. Wilson on anatomy, *ib.* Mr. Carpue on anatomy, *ib.*
Lefebure, Prof. his researches on the nervous fluid reviewed 175
Leg, artificial, Mr. Potts on 445
—— Mr. Sheldrake on 447
—— Mr. Reid on 547
Lepra Grecorum, Mr. Pears's case of 124
Lettuce, on the opium extracted from 396
Light, its influence on phosphorus 374
Lightning and electricity, their effects in gonorrhœa 277
Literature, medical and physical, critical retrospect of, see *Books*

Page.
Living animals, on the odours exhaled by 339, 439
Locked-jaw, on the use of opium against the 280
London, testimonial in favour of vaccine inoculation 239
Madeira, Dr. Adams on sending consumptive patients to 415
Marius, Bp. of Lausanne in the 6th. century acquainted with the cow-pox 379
Marrow, observations on the motion of the spinal 370
——— of the bones, observations on 470
Marshy situations, causes of the insalubrity of 493
Martial flowers, mode of preparing 468
Medical Society, a print of, proposed 96
——— Benevolent, resolutions of the 118
——— pharmacopœia, review of 88
——— lectures, see *lectures*
——— practitioners, on the utility of an annual list of 354, 438
——— and physical intelligence 91, 185, 272, 367, 467
Medical and physical Literature, foreign and domestic critical retrospect of 77, 170, 253, 365, 563
Medicina Nautica, 3d. volume of announced 282
Medley, Mr. his proposals for a print of the medical society 96
Membranes, Cit. Bichat's observations on the 448
Mental derangement, singular case of 277
Mercurial gout, description of 92
Mesenbranthemum crystallinum, Dr. Wendt on 371
Metallic brush, description of 91
Metallic bodies, change of by lava 570
Meteorological Register kept at Cambridge in North America, from June 23, to July 16, 1801. 328
Michælis, Dr. G P. on the most proper arrangement of Field Hospitals 563
Midwifery in Greece, account of 151
Mineralogy, Mr. Hauy's new work on, announced 282
Minerals, method of analysing 373
Moffatt, Mr. on animal chemistry 416
Molwytz's metallic brush, account of (with a plate) 91
——— on the vapours of the hepatic gas 92

Page.
Monstrosity, a singular instance of 94
Motion in the spinal marrow, observations on 370
Muller's History of Switzerland quoted 379
Munk, Dr. on an endemic disease in Norway 13
Muriatic acid, experiments on the 475
——— ether, method of preparing 16
Mursinna, Mr. on the cure of tetanus 280
Naptha Vitrioli, Prof. Hufeland's experiments with 373
Nervous tincture, method of preparing Bestucheff's 474
Nisbet's, Dr. practical treatise on diet reviewed 178
Noef, Mr. on the juice of Plantago angustifolia 276
Norway, account of an endemic disease peculiar to 13
Odours, on those exhaled by living animals 339, 439
Oedema fugax, Dr. Crichton's case of 25
——— Dr. Yelloley's case of 168
Oesophagotomy, Mr. Blair on (with a plate) 97
Oil, on the medical use of 69
—— of sweet almonds, efficacious in dolores post partum 71
—— on the efficacy of olive 247
Opiate friction, Mr. White on 387
——— Mr. Ward on 431
——— Mr. Jenkinson on 432
——— Mr. Boutflower on 433
Opium, on its use against the tetanus 280
——— Dr. Coxe, on that extracted from lettuce 396
Opium, Mr. Ward's observations on the external application of 478
Ophthalmia, Dr. Savaresi's account of the Ægyptian 357
Ornithorhynchus paradoxus, anatomical remarks on (with a plate) 73
Osiander, Dr. his treatise on the cow-pox reviewed 253
Paget, Mr. on belladonna in cataract 352
——— on an extraordinary calculus (with an engraving) 391
Palermo, success of the cow pox at 95
Pananach well, description of 19
Paralysis, cases of by Mr. Purton 1
——— of the pupil of the eye by extractum hyosciami 276
Paris, establishment for mineral waters at 185
Paterson, Dr. on vaccine inoculation 36
———'s, Dr. case of uncommon tumour 309
——— on new discoveries 406

Page.
Paul and Co's establishment for the preparation of mineral waters at Paris 185
Pears's, Mr. case of lepra grecorum 124
Pearson's, Dr. letter to Mr. Thomas on an abscess 295
Peck, Mr. on caustic in ulcers 19
——— on quackery 129
Perron's, Cit. observations on the uterus 279
Pharmaceutical processes 15
Phellandrium aquaticum, use of the seeds of 95
Philo-medicus on an annual list of regular medical practitioners 334, 438
Phlegmatic dolens, observations on, by Dr. Hull. 51, 135, 220
Phosphate of lime, how procured 520
Phosphoric acid, on the internal use of 92
Phosphorus the influence of light upon 374
——— Prof. Hufeland's experiment on 378
Phythian's, Mr. cases of vaccine inoculation 489
Plague, on the efficacy of olive oil in preventing the 247
——— description of the 259, 365
Plantago angustifolia, on the Juice of 276
Plouquet, Prof. on the wind-pipe in drowned persons 93
Poor, address to the, on vaccine inoculation 115
—— queries relating to the children of the 25
Portal's, Cit. observations of a motion in the spinal marrow 370
——— on epilepsy 377
Posewitz, Dr. his journal for medicine reviewed 79
Potts Mr. on artificial legs 445
——— Mr. Reid's letter to 547
Powder, analysis of Dr. Hahnemann's fever 475
Mr. Chenevix, on Dr. James's 518
Pox, case of small 3
Pregnant women, on convulsions in 279
Primrose's, Mr. case of mortified uterus 331
Prunus laurocerasus, on the distilled water of 375
Pulley's Mr. essay on animal impregnation reviewed 254
Pulmonary consumptions, Dr. Sutton's treatise on reviewed 89
Purton's Mr. cases of paralysis 1
Quackery, Mr. Peck's remarks on 129
Queries, on the condition of the children of the poor, by Dr. Beddoes 25

Page.
Question, from Dr. Kinglake to Dr. Bouttatz 461
Quicksilver, method of preparing the syrup of 15
Radesyge,* account of an endemic disease in Norway, so named 13
Reece's, Mr. medical and chirurgical pharmacopœia, reviewed 88
——— on an instrument for extracting teeth 157
Reich, Dr. on fever, translated by Mr. Parry, reviewed 86
Reid's, Mr. letter to Mr. Potts 547
Resolutions of the benevolent medical society, Essex and Herts 113
Respiration, of the power of the will on 372
——— observations on, by Mr. Herholdt 462
Resuscitative apparatus, description of a 84
Rheumatism, effects of acetic ether in the 273
Rhus Rhadicans, account of 272
Rickards, Mr. on cancerous affections 509
Rickets, remarks on the cause of 191
Ring, Mr. on the anodyne virtue of camphor 155
——— his treatise on the cow-pox announced 476
——— his remarks on vaccine inoculation 486
Ritter, Dr. on the use of snails in obstinate buboes 93
Rogers, Dr. on the use of cold water and ice 106
Rolfe's, Mr case of small-pox 3
——— on yeast in typhus 112
Roose, Prof. on the power of the will on respiration 372
Rule, Mr. on the prevention of bilious fever 311
Savaresi, Dr. on the endemic ophthalmia of Ægypt 357
Sauter, Dr. on the use of belladonna in hydrophobia 93
Saxon beryll, analysis of the 473
Scarlet fever, Dr. Hahnemann's remedy for 367
——— Mr. Skrimshire on 420
Scheel, Dr. on the efficacy of olive oil 247
Schmidt's, Mr. method of preparing the Æthiop's antimonialis 15
Schmitt's, Dr. case of hydrocephalus 6
Schumacher, Mr. on the faba pichurim 376
——— on the cortex caribæus *ib.*
Scirrhous Pancreas, considered as a cause of jaundice 29, 218, 312, 313
Selig, Dr. on the uses of extractum cardui benedicti in catarrhous complaints 3
Semina Phellandrii Aquatici, on the uses of 95
Seybert's, Dr. experiments on land and sea air 203, 359
Sheldrake, Mr. on artificial legs 447
Sicily, the cow-pox greatly encouraged in 95
Siebold, Prof. on the dolor faciei 158, 243
Simmons, Mr. on the use of arsenic in cancer 31
——— on digitalis 133
Skrimshire, Mr. on scarlet fever 420
Small-pox, Mr Rolfe's case of 3
Smith, Mr. his print of Dr. Jenner noticed 96
——— W. on an inversion of the uterus 503
Snails, on the use of, in obstinate buboes and scrophulous ulcers 95
Spinal marrow, observation of a motion in the 370
Statutes of the university of Edinburgh on medical degrees 306
Stern, Mr. on semina phellandrii aquatici 95
Stevenson, Mr. on spurious vaccine 121
Stokes, Dr. on vaccine inoculation 386
Struve's, Dr. essay on suspended animation, reviewed 83
Suspended animation, essay on, by Mr. Bishop 315
Sutton's, Dr. considerations on pulmonary consumption reviewed 89
Syer's, Mr. case of fracture 505
——— dissection 507
Syrup of quicksilver, method of preparing 15
Tartarous acid, on the transition of 475
Tatham's new-invented truss, account of 282
Teeth, account of an instrument for extracting 157
——— Mr. Custance on extracting 251
Tetanus, on the use of opium as a remedy for 280
Thomson's, Dr. family physician, reviewed 176
Tobacco, in cases of suspended animation exploded 118
Tongue, on the morbific elongation of the 353, 435, 522
Tooth-ach, Dr. Handel's remedy for the 189
Toxicodendron, botanical description of 272
Tromsdorff's, Prof. method of preparing the muriated barytes without kali 467

INDEX.

Page.

Tromsdorff's, Prof. analysis of the Saxon beryll 473
Trotter's, Dr. announcement of a 3d vol. of his Medicina Nautica 282
Tumor, account of an extraordinary one in the eye (with plates) 289
——— Dr. Patterson's case of an uncommon 309
Typhus, on the use of vinegar in 107
——— on the use of yeast in 112
Ulcers, on the use of cold water in old 19
——— on the use of caustic in 24
——— scrophulous, cured by the application of snails 92
——— Mr. Cumming on old 156
Urinary stones and gravel, in men, Cit. Fourcroy on the 527
Urine, on the use of blisters in suppression of the 526
Uterus, Cit. Penou's observations on 278
——— case of mortified 331
——— Mr. Smith's case of an inversion of the 503
Vaccine, Mr. Dyson on 219
——— Dr. Barry on 423
——— Dr. Fawssett on spurious 117
——— Mr. Stevenson on ditto 121
——— Nole on ditto 218
——— Mr. Creaser on ditto 326
——— Inoculation, Mr. Clement on 4
——— Dr. Paterson on 36
——— Mr. Humby on 45
——— address to the poor on 115
——— London testimonial in favour of 239
——— progress of, at Geneva 281
——— Mr. Fermor on 323
——— Dr Jenner on 95, 325
——— Dr. Stokes on 386
——— proposal on the discovery of 422
——— Mr. Phythians cases of 489
——— Mr. Ring's remarks on 486
Vaccine virus, Dr. Waterhouse on 327
——— chemical analysis of 395
Vandier, Mr. on the Kilburn waters 240, 513
——— on the vitality of the blood 513
Van Mons, Cit. his method of preparing muriatic ether 16
——— on the Rhus Rhadicans 272
Vaquelin's, Cit. account and analysis of the Gadolinit 188
——— analysis of the honeystone 139

Page.

Vaquelin's, Cit. method of analysing minerals 373
——— examination of the colouring part of the blood 469
——— analysis of the ear-wax 475
Van Stichell, Dr. on cachexy 376
Vapours of hepatic gas, Mr. Molwitz on the 92
Venereal disease, Mr. Geohegan's practical observations on, reviewed 180
Vinegar, beneficial in typhus 107
——— method of preparing the concentrated 474
Virey, Mr. on the odours exhaled by living animals 339, 439
Vitality of the blood, on the 513
Voice in birds, on the organ of 279
Ward, Mr. on opiate friction 431
Ward, his observations on the external application of Opium 478
Water cold, use of in old ulcers 19
——— affusion of, in fever 381
——— Dr. Rogers on the use of 106
——— contained in fossils, Prof. Lampadius on 375
——— distilled of prunus laurocerasus, on 375
Waterhouse, Dr. on the kine-pock 64
——— Mr. Jefferson's letter to 69
——— on vaccine virus in hot weather 327
Wax, analysis of the ear 475
Weather, on the vaccine virus in hot 327
Wendt, Dr his account of the mesembryanthemum crystallinum 371
Westminster hospital, *v. Diseases in the Westminster hospital.*
White, Mr. on opiate friction 387
Whitford, Mr. account of his newly invented truss 283
Wiedemann's archives for zoology and zootomy, reviewed 79
Wilkinson, Mr. on the union of simple fracture 397
——— Mr. Carlisle's reply to his remarks 477
Will, on the power of the, on respiration 372
Willan, Dr. on cutaneous diseases 297
Wilson, Dr. on febrile diseases, reviewed 255, 365
Windpipe in drowned persons, Prof. Ploucquet on the 93
Winterbottom's, Dr. observations on the inoculated cow-pock 6
Women, on the convulsions peculiar to pregnant 279

INDEX.

Wood's, Mr. case of Cæsarean operation (with a plate) 346
Wrisberg's, Mr. medical treatises reviewed 77
Wurzer, Prof. on the distilled water of prunus laurocerasus 375
Yeast, its efficacy in typhus, by Mr. Rolfe 112
Yelloley, Dr. his case of oedema fugax 168
Zoology and Zootomy, Prof. Wiedeman's archives for, reviewed 79

REFERENCES TO THE PLATES.

Skull of the Ornithorhynchus Parodoxus, &c. - - Page 73
Hemispherical Acoustic Tube, by Professor Arneman - - 73
The Metalic Brush, - - - - - - - 73
Lepra Grecorum, or Psoriasis Inveterata - - - 124
Mr. Blair's Operation of Œsophagotomy - - - - 97
Dr Bauttatz's Case of an extraordinary Tumour of the Eye, Plate 1 & 2 289, 293
Mr. Paget's extraordinary Case of Calculus - - - - 3
Cancer on the Cheek (Case of Mr. Atkinson) - - - 4
Case of Cæsarian Operation (Mr. Wood's) - - - 4

NEW MEDICAL BOOKS, just published by R. PHILLIPS, No. 71, St. Paul's Church-yard.

I. In one volume, duodecimo, price 6s. in boards, A PRACTICAL TREATISE ON DIET, and on the most salutary and agreeable means of supporting Life and Health by Aliment and Regimen.—Adapted to the various circumstances of age, constitution, and climate, and including the application of modern Chemistry to the culinary preparation of Food. By WILLIAM NISBET, M. D. Fellow of the Royal College of Surgeons, Edinburgh; author of the Clinical Guide.

II. Illustrated by a coloured plate, representing the Pustules in five different stages; a second edition, price 2s. 6d. A concise View of the most important Facts which have hitherto appeared concerning THE INOCULATION FOR THE COW POX. By C AIKEN, Member of the Royal College of Surgeons.

III. In one thick volume, duodecimo, price 5s. in boards, or 6s. bound, containing more letter-press than any other medical work of a general and popular nature, THE FAMILY PHYSICIAN, or DOMESTIC MEDICAL FRIEND: Containing plain and practical Instructions for the Prevention and Cure of Diseases, according to the last Improvements and Discoveries, with a Series of Chapters on collateral Subjects; comprising every thing relative to the Theory and Principles of the medical Art necessary to be known by the private Practitioner; the Whole divested of scientific and technical Words and Phrases, and adapted to the Use of those Heads of Families who have not had a classical or medical Education. By ALEXANDER THOMSON, M. D. Author of Medical Consultations; of an Essay on the Diseases of Women; of a Treatise on the Nerves, &c. &c. &c.

IV. In one volume, duocecimo, price 5s. in boards, REPORTS ON THE DISEASES IN LONDON, during the Years 1796, 1797, 1798, 1799, and 1800, with practical Observations, &c. &c. &c. By ROBERT WILLAN, M. D. F. A. S.

T. Gillet, Printer, Salisbury-square.